The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

Vol. XLIII. CHICAGO, ILLINOIS, JULY 9, 1904. No. 2.

Addresses.

THE FIELD OF THE SECTION ON PATHOLOGY AND PHYSIOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT ATLANTIC CITY, JUNE 7-10, 1904.

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PHILADELPHIA.

In accordance with past precedent and the dictates of our program, it becomes my pleasant duty to address a few words to those who have labored in the Section on Pathology and Physiology, congratulatory of its past successes and anticipatory of its future.

Born in 1900 in this city by the sea, our infant Section has been nurtured amid surroundings most conducive to successful growth and development. Its first anniversary found it on the banks of the Father of Waters in far-away St. Paul, where it learned to stand alone; its second anniversary among the healthful springs of Saratoga; its third among the flowers of New Orleans, and its fourth in the city of its birth. Feeble at the start, its life despaired of even by those most interested in its welfare, it has successfully passed through the dangers of infancy, until we now find it a vigorous and lusty baby, eminently fitted to survive.

We are a small Section, and such we must expect to remain, for the Section exists exclusively for those who labor in technical work, and they are few in number. The formation of this Section was at first opposed, because it seemed to support that unfortunate tendency toward differentiation that has found its way into so many departments of medicine. It was correctly argued that pathology is a department of medicine, without which clinical medicine can not succeed. All papers on pathologic subjects are and must ever be of interest to every physician. But it might equally well be said that pathology is of interest to the surgeon, to the gynecologist, to the ophthalmologist, and that it is of fundamental importance in every department of medicine. It was feared that the papers contributed to the meetings of this Section would benefit no one, and so be lost; at the same time that the other sections would be correspondingly impoverished. But the formation of the Section was not intended to disturb the close relation of pathology to the other branches of medical science, or detract from the success of the other sections. It was formed to be a technical section. It is not expected that papers of general interest shall be confined to this Section, because they happen to be on subjects in pathology. But as the Association is large and includes in its membership many whose interests are in pathology alone, and whose daily problems are purely technical and of interest to others engaged only in similar work, this Section provides an opportunity for their mutual benefit to be derived from the reading and discussing of papers on these limited subjects.

It is only as it fulfills this end and brings together the technical men to discuss the technical problems that the Section properly accomplishes its function and can be a success. Should it withdraw from the larger sections papers of benefit to their members, I should regard it as an evil; and in order that such a misfortune may not occur, an endeavor was made both this year and last to arrange for a number of conjoint meetings, at which the pathologists and physiologists and the medical men, the pathologists and physiologists and the surgeons, and the pathologists and physiologists and hygienists might come together for the discussion of subjects of common interest. It is our conviction that some such plan will best profit the members of our own and the other sections. A paper on some new method of preparing morbid specimens for museum demonstration, or on methods of cultivating the smegma bacillus is best presented before this Section, and of most benefit to its members. One on the mechanical or nervous factors involved in some form of heart disease is likely to be of equal interest to the members of the Section on Practice of Medicine, and more properly finds its place on their program.

The success of the Section is not to be judged by the number of papers read, but by their excellence. Let there be a rigid censorship of papers before and after reading. Whatever of poor quality is published as coming from this Section injures it, and reflects discredit on the great body of which it is a part.

The American Medical Association is the national representative body. Its journal is the most popular and probably the most voluminous in the country, and one of the best known in the world. No paper can be too good for presentation at these meetings, and no paper can be better placed, no matter how technical it is, than in THE JOURNAL of the American Medical Association. Though there are other technical societies before whose meetings technical and scientific papers must be read, and in whose official organs they may be published, none can be looked on as having the breadth of scope, the dignity or the importance of the American Medical Association, and in none of their journals can papers receive the wide publicity they secure through its journal.

The members of this Section must be the particular patrons of the Scientific Exhibit, and should consider it as a duty to contribute to it. The enthusiasm of Dr. Wynn and his indefatigable energy can not be too highly appreciated. Rarely has a man had greater problems to contend with, greater obstacles to overcome, or more firmly rooted prejudices to eradicate than this devoted

student. Let him receive the support of every member of the Section.

The Association contains many whose opportunities for seeing even the most ordinary specimens must be limited, and many whose opportunities are excellent; therefore, it matters little whether the objects exhibited are rare, or whether they are ordinary. There is always somebody who will be pleased and profited. This gives us an almost unlimited scope of activity. The man who has engaged in some special research may find his specimens appreciated by those who understand them, while one who brings with him a series of hearts or kidneys or a dozen microscopic objects forming a demonstration, will be equally appreciated by others.

The titles and the names of distinction on our present program promise much profit and enjoyment from these meetings. The thanks of the Section are certainly owing to our secretary, whose energy and wide acquaintance have enabled him to prepare it. The secretaryship carries with it little of honor compared to the onus of correspondence and responsibility it entails.

Let us ever bring the best products of our labors to the American Medical Association; let us wisely distribute our papers for our own and the general good, and while we remain a unit as a section on experimental medicine, let us also remain a power for progress in those other sections, with whose work we are so closely identified and where our advice and experience may be valuable.

THE DEMANDS OF THE CHILD BY VIRTUE OF RIGHT.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, JUNE 7-10, 1904.

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Among mammals, animals of the higher development, helplessness and dependence characterize the state of the young. The duration of the dependence varies with the different types of animal. Until able to care for itself the young mammal's wants are supplied by those responsible for its existence—a duty which is instinctively assumed. For the growth and development of mammals, of which man is the highest type, there must be means of nutrition, and surroundings suitable to the habits of the animal—conditions ordained by Nature, which, when not followed out, invariably produce inferior growth and physical degeneration.

The man who breeds a horse for the track, a horse to excel in intelligence and speed, one sound in body and of great endurance, the horse which is to win the Suburban, begins during the animal's fetal life to prepare him for the future. The first step is the proper care of the mother. From birth until ready for work the young animal is under constant supervision. He receives food best suited for the utmost development of the qualities desired. Cleanliness in surroundings, protection from inclement weather, and a carefully regulated system of exercise are constantly afforded. In the rearing of cattle, sheep and swine the natural requirements of the growing animal are most carefully supplied; for it has been learned that only by such care can the highest type of adult be produced.

The Department of Agriculture at Washington and the state experimental stations issue for gratuitous distribution pamphlets and books bearing on the rearing of animals. The advantages accorded the lower animals because they have a value in dollars and cents is certainly a reasonable demand of the child.

The child is a young animal, so far as physical characteristics are concerned. In his work on "Education," Herbert Spencer remarks that the first requisite for success in life is to be a good animal; and to be a nation of good animals is the first condition of national prosperity.

In order that a vigorous adult may be produced, suitable nutrition, plenty of fresh air and cleanliness are absolutely necessary for the child. In his daily life there must be an absence of worry and anxiety, an absence, to a great degree, of responsibility, an absence of work of an exhausting nature until the adult period is reached. The child should make its first year's growth and development during the first year, its second year's growth and development during the second year, and the third, fourth and fifth, and later years of growth and development during those years. In order to make the best adult both physically and mentally, every year of the growing period must supply its quota of physical and mental development. The child will never do its first or second year's growing satisfactorily during its fifth or sixth year, nor its fifth or sixth year's growing during its tenth or twelfth year. Protracted faulty nutrition, overwork at school, employment of an arduous nature in mines, stores or factories during the developing period leave their indelible stamp on the adult, as evidenced by stunted growth, lack of endurance, lack of resistance to disease, lack of capacity for work, together with the absence of a high order of mental capacity and moral force, a condition so often found in the weakly.

Assuming that the object of a national existence is the creation and preservation of a fine stock of mankind, a review of the state's methods—of our methods, as we, the people, constitute the state—will make our shortcomings most apparent.

Instinct directs the lower animals as to the proper selection of food, not only for themselves but for their young. Instinct tells the higher animal, Man, very little. Every day of our lives, in private work among the well-to-do, and in children's clinics among the poor, we are brought face to face with the most dense ignorance relating to the most important feature of the management of a child—his nutrition. If man is wanting in the instincts, he possesses reasoning faculties, and is capable of being taught what his offspring has a right to demand. The physician must teach him.

Among the thousands of children which we have treated at the Outpatient Department of the Babies' Hospital, and at the New York Polyclinic Dispensary, but 20 per cent. of those over one year of age are of normal development, and of those under one year of age 35 per cent. are normal. These children are the offspring on the father's side of day laborers, drivers, waiters, and small wage-earners generally. The mother is a young woman of the same class and possesses considerable intelligence. She can read; she can write her name. She is familiar with the current topics of the day. She attended the public schools.

An intimate insight into the daily life of these people, such as the writer has had, will demonstrate that the large percentage of malnutrition among the young is

not due to poverty, not due to the absence of food. The children do not go hungry; the malnutrition is not due to want of food, but to want of proper food. These mothers possess little knowledge, if any, of what constitutes suitable food for a growing child. They are absolutely untaught as regards food values. Nevertheless, our typical mother of this class attended a public school. But she was never taught how her own body, or the bodies of her offspring, should be nourished. The school neglected to teach her that which to her and to the state is of the first importance.

Physicians who are members of school boards, and those who may be connected with educational institutions in any governmental capacity, should exert their influence in having students taught how to live.

To prepare for complete living is the function which education has to discharge.

Herbert Spencer, in "Education," writes:

"Is it not an astonishing fact that, though on our treatment of our offspring depend their lives and deaths and their moral welfare or ruin, yet not one word of instruction is ever given to those who will hereafter be parents?"

During the past few years cooking and home-making have been added to the New York City school curriculum, and, although the hours so employed are comparatively few, the fact that it is done at all marks a distinct advance in the right direction, the benefits of which are not yet apparent from the standpoint of results.

The young wife of the small wage-earner gives birth to a male child who, in the natural order of events, becomes a laborer, a mechanic—a small wage-earner; or he enters the Army or the Navy. In any event, whether in the public service or in private life, he is an important personage. He is in the service of the state. He is a member of the body politic; and whether he is an addition or a tax to the community, whether he stands to the left or to the right of the decimal point, whether he gives and adds his quota to the nation's strength, or whether he becomes an element of weakness, depends on his early management—particularly on his early nutrition.

I have come in contact with a great many young women of the class just referred to. I have learned their methods of living and what constitutes their children's food; and you may be surpised to know how largely ill-cooked cereals, boxed breakfast foods with the energy largely in the name on the label, bakers' bread, grocery or condensed milk, tea, beer and canned vegetables enter into the children's diet. The above foods, supplemented by cheap cake and pastry from the bakery around the corner, are what the average so-called poor child in our large cities is being brought up on. An equal expenditure of money in good milk, wheat or rye flour, dried beans, peas, oatmeal, potatoes, fresh meat, would furnish food of much greater value and produce adults of far better development and intrinsic worth.

We have observed that these mothers are anxious to be taught. They were not taught how to live in the schools. They must be taught by the doctor!

Fortunately for the human race, in small villages and in the country generally the family is better fed; not because of greater knowledge, but because of the distance to the corner grocery and the habit of the country housewife of doing her own cooking and baking.

This same young mother, who has attended the public schools, who can read and write, and who is interested in the current topics of the day, has never been taught and does not know the value of fresh air. Her rooms are close and ill-ventilated. Neither do the great majority of them know the necessity of cleanliness. Their rooms are usually dirty. Take into consideration the unsuitable food, continued absence of fresh air, uncleanliness, the forced outings in unclean streets, together with the wretched dwellings which our impossible city governments allow to exist, and you have the explanation of our 80 per cent. of defectives in children over one year of age, and of our 65 per cent. of defectives in children under one year of age. Heredity unquestionably plays a part in the child's development, but an insignificant part as compared with the nutrition and environment. Faulty nutrition produces lack of resistance to disease; it makes susceptible bodies; the large mortality among infants is due, directly or indirectly, to nutritional errors more than to anything else. Scarlet fever, diphtheria, measles, pneumonia, tuberculosis, the intestinal diseases of summer, claim most of their victims among those who have not sufficient stamina to resist the infection.

The struggle for existence is gradually becoming more acute—a struggle in which the strongest win, the weak are greatly handicapped. Physical examination is now required in many walks of life. Railroad corporations are establishing a physical standard for their employes. Recently in New York City a strike on the elevated railroad was threatened because the management insisted that the motormen should pass a physical examination. Motormen, elevator men, firemen, boat captains, engineers, all are required to be physically sound; and the public has a right to demand that only sound men shall be employed in these positions. Within the past six weeks an engineer of a New York ferryboat, an engineer of a New York & New Haven R. R. train, and a motorman on a Brooklyn trolley car fell dead at their posts—presumably with heart disease—imperilling the lives of many.

An employer in any competitive industry can not afford to employ a man or men who can not work to the standard set by the well and vigorous. Machinery must be manned by men who are equal to the task as estimated by the standard set by the strong. To be admitted into the Army or Navy, or the police service, rigid physical examinations are required.

If success in life, happiness and usefulness depend to so great a degree on a normal body, surely the child has a right to demand sufficient consideration that these may be furnished.

It is known to all that mental and physical degeneracy go hand in hand. The mentally defective who come under my care invariably are found to possess gross physical defects. That a sound mind requires a sound body is a maxim that will be disputed by none who have had to do with children.

That portion of the rising generation who will do the nation's work, fight the nation's battles, do the nation's thinking, are those who are now this day receiving what we all admit the child has a right to demand. They are getting food suited to the development of their bodies, they have the benefit of fresh air and cleanliness, and a life devoid of care. They are having the benefits of secular and religious instruction.

Those who are treated otherwise are to furnish a large portion of the future dependants, criminals and degenerates.

Manufacturers and large employers of men and women in New York City are experiencing difficulty in securing competent help. Early in April an employer of a large number of young women in New York City, wishing to

increase his force, advertised for able-bodied girls between 16 and 22 years of age. He had 250 applicants. Among this number there were 15 whom he thought worth considering; 10 were selected.

Crime among the young exists to an alarming degree in all large cities. In the recently-established Children's Court in New York City 7,647 youthful offenders had judgment passed on them during the year 1903. Of these 4,790 were convicted; 452 were under 7 years of age (the most of these for improper guardianship), 949 were between 7 and 12 years of age, 1,437 were between 12 and 14 years of age, 1,953 were between 14 and 16 years of age. Three hundred and ninety-nine arrests were for burglary; 927 were for larceny of sums under $25; 300 were for larceny of sums over $25.

Recently I spent a morning at our Children's Court of Special Sessions. One after another, male and female, the culprits came before the judge—perhaps 50 in all, in ages from 6 years to 16 years. With but two exceptions they were anemic, sallow, wretchedly-nourished children. They were dirty and insufficiently clad, with the marks of physical and mental degeneration most apparent. Mr. E. R. Coulter, Clerk of the Court, to whom I am indebted for many courtesies, assured me that not 10 per cent. of those who came under the jurisdiction of the court had ever experienced the benefits of decent home care. Ninety per cent. of the 7,647 were, the court records show, born and reared under conditions which must of necessity produce criminals and degenerates.

The mother of a boy who attended a West Side public school complained to the principal that her son had been robbed. Similar complaints had reached him before. At the morning exercises in the assembly room the principal asked all the boys who had been robbed to rise. One hundred and sixty stood up. Of these, forty had been robbed of more than a dollar each.

A boy, 15 years of age, recently sent to the reformatory, was the leader of a gang of fifteen thieving boys from 10 to 15 years of age. The crime with which he and his gang was charged was the "holding up" of a baker's wagon and despoiling it of its goods.

There are several such gangs in New York City. They have a recognised leader who directs the thieving operations. Of these the "Foundry Gang" and the "West Side Terrors" are perhaps the best known.

The state devotes surprisingly little attention to the care of the young child until he becomes a nuisance or a source of danger to the community. When the state takes hold the damage has already been done.

Through neglect of the children in their earliest years we make our criminals, and then we establish courts of law, reformatories and prisons to take care of them when they are a few years older.

Every child under 16 years of age should be known to the state and should be under the supervision of state officials, each for a given district, whose duty it shall be to see to it that the child receives proper instruction, decent food, decent care. When it is shown that this is not possible in the family, then he should become a ward of the state.

Start the boy right, and start the girl right, and they will come out right at the end. Ignorant mothers must be taught by district nurses. The child must be properly cared for in its earliest years and during the entire developmental period. It can be done, and for the investment the state will get returns never dreamed of. Children's courts, reformatories and prisons would in a few generations become a part of the history of the selfish, grasping age in which we now live.

All but three states have laws relating to child labor, which are indifferently enforced. So lax have been our state governments in this respect that on April 15 a National Child Labor Committee was appointed, the chief object of which is to insist that the existing laws be respected.

It may be pertinent to remark in this connection that man, with his boasted intelligence and civilization, is the only animal which requires its young to be self-supporting.

The state erects schools which the young, under a certain age, are required to attend. The strong and the delicate, the intelligent and the dull, are required to do an equal amount of work in an equal number of hours. The hours are too long—the studies, usually, badly selected. The question of whether the child is clothed, or how fed, does not interest the state.

Urging the need of special classes for backward and delicate children, Isabel R. Wallach[1] reported there were 8,500 children in the public schools in New York City who were making no visible progress; also, that the number was being steadily increased. These children, she says, are mentally deficient; but there is not a single idiot or imbecile among them—the mentally diseased being cared for elsewhere. Freed from competition with children of higher mentality, they might do well. Their brains are capable of development under favorable circumstances. Placed from the first in classes suited to their capacity, they might attain normal mental development. Many others of these children are backward because of ill-health or frequent illness, which makes them unable to keep up with the studies of their class. Their mentality is normal, and in special classes, with short sessions, they might do well.

Even the defective laws relating to school attendance are indifferently enforced, if we may judge by the census of 1900, which shows that between the ages of 10 and 14 years there are 579,947 children who are illiterate—children between 10 and 14 years of age who can not read or write.

Legislators, public officials, men high in public office, confine their energies to a very few things. They are intense specialists. They are journalists, jurists, men learned in the sciences, men skilled in statecraft, who have not the time—who are not in a position to appreciate a threatened national peril.

These people must be taught the duties the state owes to the child, and it is the physician who must teach them.

In Great Britain physical degeneracy has reached such an alarming degree that a royal commission was appointed to ascertain the cause. The appointing of the commission was the outcome of a debate in the House of Lords, July 16 last, during which Lord Meath and the Bishop of Ripon drew attention to the terrible conditions prevailing among the poorer classes. The Duke of Devonshire, president of the council, then admitted that Great Britain's military and industrial outlook was seriously threatened, and promised an inquiry into the matter. The subject was also brought up in the House of Commons by Sir William Anson, parliamentary secretary of the Board of Education, who declared that sixty thousand children now attending London's schools were physically unfit for instruction. Sir Frederick Morris stated that 60 per cent. of the men who applied for admission into the army were physically unfit. The re-

1. New York Times, Dec. 28, 1902.

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jected men were divided into three classes: First, those who were not worth taking to the medical office; second, those who were rejected as a result of medical examination; third, men who broke down during two years' service. It is estimated that there are sixty thousand men in London who are physically unfit for service.

The causes of the physical and mental deterioration in England exist in this country, but to a lesser degree.

The report of the royal commission, in explaining the causes of the deterioration, deals largely, as it must, with the care and rearing of children. The causes of the physical degeneration, as set forth by the commission, are insufficient and poor quality of food, defective housing, overcrowding, and unsanitary surroundings. The commission found that in London 400,000 people live in single-room tenements, 40,000 live five in a room, 8,000 live seven in a room. In the British Isles, 3,250,000 people live with an average of three persons in one room.

The diet of the children was much the same as in our own large cities—wheaten bread, tea, beer, jam and tinned goods. The commission estimated that 60 per cent. of London children are underfed; they found that children have irregular hours and lack of sleep; that children are on the street until all hours of the night. Increase of the use of alcohol among women is put down as a cause. Children of the alcoholic are found to be neurotic, impulsive, and to lack self-control.

They report that compulsory education has been a benefit morally, but not physically. Long hours of confinement without breaks, in poorly-ventilated, overcrowded schoolrooms, without food suited to nourish their bodies, unwisely clothed, plodding for years over studies that are of no practical use. All of which applies to this country. The principle of exercises in the schools was a detriment in that delicate and robust were treated alike. Degeneration of country children was found to be less; the living quarters were healthier and the food better. The country children have more regular hours, they escape late hours, and they have the benefit of plenty of fresh air.

France, with her diminished birthrate and decreasing population, has realized for several years the cause, and more than any other country she has endeavored to remedy the evils attending the care of the young. England has had the fruits of her neglect of years forced on her. Those of use who have seen much of childlife among those who have the most children in our large American cities can read ahead and see that in a few generations we, too, will be deploring as a nation the inferiority of the quality of the bone and muscle of those who constitute the most valuable national asset—the so-called poor men, the men who produce, the men and the women who work with their hands.

So far as governmental intervention is concerned, but little is to be expected at the present time. By process of evolution we are still too near our aboriginal ancestors for any broad, human sympathy. What we need, what we must teach, and what will eventually come, is "sufficient governmental paternalism to realize that it is the children of to-day who will be the American nation of to-morrow, and that they excel in importance every other national consideration."[2]

The Government can not select a child's parents for him; but it is responsible when the parent has to live in a sunless room in an ill-ventilated, insanitary tenement.

The Government is, of course, unable to provide food for every child; neither is it necessary; but it is responsible when the head of the family, through ignorance, feeds grossly unsuitable foods to his offspring. Insanitary dwellings, poverty, uncleanliness certainly play a part in producing physical degeneration in this country; its chief cause, however, according to my observation, rests on the absence of knowledge among the masses of the most elementary principles of child-feeding.

The infant's weight increases about twenty times before the adult period is reached, and its body is built by the food it assimilates. It requires no great process of reasoning to appreciate that the child which is fed on suitable food will become a more vigorous and better formed adult than one which is fed, beginning at birth and continuing during the entire development period, on food of indifferent tissue-building qualities.

It is my observation that the mother who by accident of birth and environment is a so-called "poor" mother, and an ignorant mother, is almost invariably a good mother according to the light she possesses. She is anxious to learn, and when taught she follows instructions as well as her more fortunate sister. These women need teaching, and it is the duty of the patriotic physicians of this country to teach them. The physician can in no possible way serve the nation better than by teaching the mothers of the nation how to rear the children of the nation. Every family has its physician; and, if he is the right kind of a man, he has their confidence and affection. It is he who comes into intimate contact with the daily family life; he speaks, and they believe. In the position of the family friend and teacher of the community the physician who recognizes his responsibility and accepts the physical guardianship of the rising generation determines the character of the future spiritual, commercial and political life of the nation in that he aids the children of the nation to receive what they have a right to demand.

As a result of his having lived, and lived nobly, there will be happier homes, fewer disappointed lives, less crime, and fewer dependents.

In such a capacity, from the standpoint of national worth, the physician is the most important member of the community in which he resides—a more valuable servant to the state and to the nation than a man in any other calling. He prepares the soil; without sound bodies and normal minds, secular and religious teaching are of little avail. Where the American nation shall stand twenty-five or fifty years hence, and what position it shall occupy among the nations of the earth, depends more on the physicians of to-day than on any other profession or calling whatsoever.

2. Editorial in N. Y. American.

Original Articles.

APPENDICITIS FROM THE STANDPOINT OF THE PHYSICIAN.*

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A sufficient apology for the introduction of so time-worn a subject is found in the startling prevalence of the condition and the unnecessarily high mortality rate. So long as the daily press continues to record frequent deaths from a disease which, at some period of its course,

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

is recognized by the medical profession to be distinctly curable, so long will there remain a justification for its most thoughtful and oft-repeated consideration. Although obviously a surgical condition, the discussion of appendicitis in a body of physicians appears particularly appropriate. The position occupied by the physician concerning this affection frequently is equivocal, compromising and most unsatisfactory. Although not directly involved in the later surgical management of the disease, he is compelled, nevertheless, to assume an obligation fraught with infinitely greater responsibilities than can possibly obtain with the surgeon. It so happens that in appendicitis, unlike most surgical conditions, it is the physician, rather than the surgeon, whose professional services are first sought in the majority of cases. This appears inevitable from the very nature of the public and professional relations. It may be explained largely through failure of the patient or friends to properly appreciate the character and possibilities of the ailment and from the abiding confidence reposed in the family physician. Thus it is that during the very time when the condition is invested with its greatest responsibilities, when the hour-to-hour question of management is all vital to the life of the individual, the case is rested solely with the physician, who assumes the trust with a complacency often remarkable, even in the face of a positive diagnosis. The fate of the patient usually depends on the detail and accuracy of observation, the acuteness of diagnosis, definiteness of purpose and the promptness of execution of the physician alone during the first twenty-four to thirty-six hours. According to the degree of medical intelligence and sagacity involved will the time either of surgical counsel or active operative interference be invoked. There can be no greater reflection on the professional attainments and acumen of a physician than failure to recognize at once the precise nature of the disease and to prepare at an important and opportune time for surgical relief. It is no compliment to summon surgical aid after a period of disastrous, fateful and delusory expectancy. It must be apparent that a great measure of the responsibility attending unfortunate results in appendicitis is to be attributed to the lack of exactitude of diagnosis and the delay of decisive action. Is it not, then, eminently fitting that renewed efforts be instituted from time to time to emphasize among physicians the essential features of the disease and its rational management? This paper is offered in the interests of early accurate diagnosis, and as a plea for greater preciseness of conviction among medical men in the various phases of the disease, as opposed to the *laissez faire* policy which is too frequently observed.

In a paper of this kind it is unnecessary to call attention to the variety of pathologic conditions which may exist, or to the several symptoms or signs which afford the classic picture of the disease. These are too well recognized to deserve more than passing attention. Neither does it seem pertinent to enumerate at this time the differing opinions held by surgeons as to the relative merits of early or interval operations. The views of distinguished operators, based on an enormous experience, have been sufficiently promulgated in late years to enable the profession to become more or less familiar with the rationale of their conclusions. There are those who advocate operation whenever the disease is recognized, regardless of time or conditions, and others who invariably discountenance surgical interference until the interval is reached. The distinctive claims of those adhering to each of these radical and somewhat extreme ideas of management are founded on their special opportunities for observation, and reinforced by an array of statistical results which assuredly appear by themselves most formidable and convincing.

It is sufficient for the purposes of this inquiry to call attention—

First, to the supreme importance of early diagnosis, which, if obtained at once, affords a key for the satisfactory solution of the much-disputed problem as to the time of operation.

Second, in cases of longer duration, to the necessity of a most careful and detailed review of the previous manifestations, with a deliberate and well-considered differentiation of the several phases, to the end that a non-vacillating purpose may be evolved, subject only to the influence of such clinical developments as may obtain through intelligent observation.

It is insistently urged that a painstaking physical examination of the abdomen should be made in all cases of abdominal pain, regardless of the possible slight degree of severity of the pain, the presence or absence of chill, fever, nausea or vomiting. Not infrequently is a sharply localized area of resistance and tenderness found over the region of the appendix, without the other oft-associated symptoms of the disease. A diagnosis rendered possible at this time by a careful examination is of transcendent importance.

It is furthermore contended that the absence of definite physical signs in the right iliac fossa in the presence of sudden chill, fever, nausea, vomiting, acute general abdominal pain and prostration offers no reliable assurance of the non-existence of a most serious involvement of the appendix.

The contention is made that there is no constant definate relation between the severity of the symptoms, together with the abdominal signs, and the degree or nature of the actual pathologic change within the abdomen. There is no invariable rule by which to hazard an opinion on the existence of gangrene, perforation, abscess, circumscribing adhesions or localized peritoneal inflammation. The pathologic condition, without opening the abdomen, is at best a mere matter of conjecture even during convalescence or in the apparent absence of unfavorable symptoms.

It is obvious in the course of an acute appendiceal attack that the feeling of security engendered by the absence of distinctly unfavorable or alarming symptoms is often a most unsafe delusion. It goes without saying that no one can see into the abdominal cavity and describe the pathologic process in the neighborhood of the appendix, or estimate with accuracy the imminence of threatening morbid change. One man's dictum is about as authoritative and worthy of credence as another's, other things being equal.

It is conceded that there are certain times and conditions when it is perhaps more conservative to delay operative interference, notably when the case is not seen until after the lapse of over thirty-six hours, and when at the same time there is an apparent remission of the acute symptoms and a more or less amelioration of the physical signs. Reference is here made to the diminution of pain, lowering of pulse and temperature, absence of vomiting or chill, lessening of distension, and perhaps passage of gas or fecal matter. At such a time it is fair to assume, provisionally, that adhesions are forming and that the inflamed area is being effectually walled off from the general peritoneal cavity, or that the inflam-

mation itself has not as yet penetrated the peritoneal covering. In the absence of a return of unfavorable symptoms, it should be recognised that there is perhaps less to gain and more to lose by a meddlesome interference at this particular period. To say the least, however, this time of observation, even at best, is one of anxious responsibility. Pending a recurrence of the previous acute symptoms or the development of other manifestations indicating an extension of the process, it is justifiable to refrain from surgical interference. Immediately, however, on the recurrence of pronounced chill or vomiting, with increased elevation of temperature or renewed abdominal pain, the indications for operation are imperative and brook of no delay.

It is well to remember that in the event of an acute appendicitis, definitely and legitimately demanding an operation on its merits, few complicating conditions should furnish a contraindication. In such an emergency the consideration pertains solely to the choice of the lesser of two evils, and the mere existence of tuberculosis, kidney or heart lesions often affords insufficient grounds for hesitation or delay.

In all cases when operation is advocated it should be made clear, not that the operation is absolutely necessary for recovery, but that the chances for recovery are greater with than without it. The existence of leucocytosis as offering indications for the necessity of operation is of comparatively minor importance.

In doubtful cases it must be emphasized that the dangers of operation *per se* are practically *nil*, and that the dangers of delay are terrible.

The foregoing remarks are in the nature of a brief epitome of my conception of the present status of appendicitis from the standpoint of a physician.

It may, perhaps, be regarded as absurd and presumptuous for any physician to formulate his ideas and base his conclusions as to a general course of action in appendicitis from his own relatively minor opportunities for observation and a slight personal experience with the disease. It must be conceded, however, that no matter how broad his reading and his familiarity with the recorded results of others, it remains for a vivid, active and varied experience of his own to crystallize his views and define his general course of future procedure. The views which are here enunciated are derived, or at last emphasized, from a rather considerable personal experience with appendicitis solely in the capacity of a physician and among widely differing conditions. Recourse will be made to brief mention of selected and illustrative cases. These will be reported in their chronological sequence, with such deductions as may be reasonably suggested.

While, with our present light, errors of judgment and even of diagnosis are here to be observed, these mistakes have not been without their due influence for good. It may be asserted that more of real profit in the way of removing vague doubts and hesitancy, and in affording more clearly defined convictions, has accrued from these mistakes than from any other source.

CASE 1.—The patient, a boy 8 years old, after several days of malaise and headache, experienced a severe chill, followed by vomiting. He complained of severe abdominal pain which was referred to the right iliac fossa. The day previous he had been seen by a physician, who had rendered a diagnosis of typhoid fever.

Examination.—The patient was seen by me on the morning of Nov. 22, 1895, a few hours following the onset of acute symptoms. He was found lying on his back, with the right leg flexed on the thigh and the thigh on the abdomen. The countenance was ashen and expression distinctly pinched. The eyes were dull, the right pupil much dilated, the head considerably retracted, the temperature over 104, and the pulse about 140. Examination of the abdomen disclosed tenderness, with slight rigidity in the right lower segment. Careful examination was made of the chest, with negative results. The acute onset, the chill and vomiting, the rigidity and tenderness over the region of the appendix, pointed strongly to the diagnosis of appendicitis. On account of the great prostration, the mental hebetude, with retraction of head and dilatation of one pupil, it was thought best to summon in consultation both a surgeon and a neurologist.

The consultation was held about four hours following my first visit. The temperature had risen to over 105, the pulse was much weaker and more rapid, the prostration more pronounced, the expression decidedly more pinched, and the patient in a condition of semi-coma. There was slight distension of the abdomen. The previous diagnosis of appendicitis was heartily concurred in by both consultants. A second examination of the chest, conducted by myself, disclosed the suspicion of a slight change in the respiratory sounds on the right side between the scapulæ. There was neither dullness on percussion nor bronchial breathing, but a very slight prolongation of the expiration, with just a possible change in quality. I reported this change to the consultants, neither of whom, however, after examination, were willing to accept my statement that there was any deviation from the normal within the chest. My own decision in favor of immediate operation in accord with them was made, not solely because of a lack of courage in my own convictions with reference to the possible pulmonary complication, but rather on the grounds that to my own mind the hypothesis of appendicitis was the more reasonable conclusion. The boy's condition was most desperate. It was apparent that heroic measures must be instituted to save life, and that any material delay in action would result fatally.

Operation.—An unqualified diagnosis of appendicitis was made to the family, and immediate operation was performed. At this time the child's temperature was 106. A normal appendix was found and removed. The child was subjected to most vigorous stimulation during the operation and was very slow to rally subsequently. The family was informed merely that the operation had been successfully performed and that the appendix was removed, and that we must abide the issue. A few hours following the operation the temperature by rectum dropped to about 102, but arose later to 105. On the second day following the operation I was permitted to make another examination of the chest, and found the changes in the pitch and quality of the respiratory sounds to be more readily appreciable than before, and the expiration more distinctly prolonged. The temperature had remained in the neighborhood of 105, and the mental condition was that of great hebetude. It was apparent that there was a condition of most profound toxemia, and the only possible physical sign on which to base a provisional diagnosis was that of a delayed pneumonia with central localization. The day following there was a slight cough, and the physical signs readily showed a beginning consolidation. The entire lung subsequently became involved, and the child went through a two weeks' illness with most severe lobar pneumonia and recovered. The family were informed that possibly the anesthetic may have had something to do with its development.

This case is reported not only as one of perhaps unusual interest, but as an emphasis to the fact that even in the event of such a classic grouping of abdominal symptoms, and with such distinct physical signs as to make the picture almost a typical and conclusive one of appendicitis, yet there resulted a grievous error of diagnosis. Several such cases of pneumonia simulating appendicitis have been reported during the past decade. Under similar circumstances, however, ten years ago it is impossible to see how any conscientious and resourceful physician, with the interests of his patient at heart, could fail to adopt the same course of procedure. It so happened that in this instance the decision was radically

wrong, but there can be no reflection on the honesty of motive, the unhesitating assumption of responsibility, and, with the data at hand, the soundness of the judgment. In the midst of a most trying and desperate situation the course of procedure must be accepted as having been substantially correct, for the patient was given the benefit of the doubt regardless of all other circumstances.

CASE 2.—The patient, a woman, aged 33, with a long-standing quiescent pulmonary tubercular process in both lungs, experienced a sudden acute pain during the night of Feb. 13, 1901. This was followed almost immediately by a chill, and subsequently by vomiting.

Examination.—She was seen by me on the following morning. The temperature was but slightly elevated, the pulse was of good quality and not especially rapid. The pain in the abdomen, which had been general rather than localized, had subsided somewhat under hot applications, but without an opiate. Careful physical examination failed to disclose the slightest tenderness or resistance over the region of the appendix. The patient remained under observation for twenty-four hours without there being any special change in the condition. She was kept on her back with hot moist applications and with practically no nourishment by mouth. During the second night the pain became more severe, followed by renewed vomiting and another slight chill. The next morning the result of physical examination still remained completely negative. The expression, however, was not as good as on the preceding day. After consultation and a continued negative result of abdominal, vaginal and rectal examination, it was determined to move her to the hospital with a view to a possible exploratory incision. The operation was permitted to be delayed another twenty-four hours, however, during which time the temperature arose to 104, the pulse to 136. The abdomen had become considerably distended, and the whole picture was that of septic peritonitis. On opening the abdomen free pus was found throughout the general cavity. The appendix was excessively long, with its tip dipping down over and below the brim of the pelvis, where it had become adherent, thus amply explaining the failure to elicit tenderness or rigidity on early examination. Perforation had taken place, and the appendix was gangrenous in places. The patient's condition was most extreme during the operation, being sustained only through the influence of excessive hypodermic stimulation, subcutaneous salt solution, coffee by the rectum and inhalations of oxygen. She was taken from the operating room in collapse, and it was freely predicted that death would ensue within a few hours at the latest. Under heroic stimulation she rallied slightly, and during the next two or three days the condition remained as desperate as can be imagined. The pulse was exceedingly weak, the temperature considerably elevated and the abdomen extremely distended. Fecal vomiting began on the third day following the operation, and the patient became practically unconscious. In spite of most vigorous efforts, the bowels had not moved, and there had been no passage of gas. It was apparent in the early part of the third night following the operation that death would take place at once. It was my determination to remain with the patient during the night and to make a last effort to save life. It was evident that the stomach must be relieved of the fecal matter and that the gas must be at least partially removed from the intestines. After some thought it was decided to employ washing out of the stomach, which practice, I think, was new in such cases at that time. My thought was, that if the stomach could be kept clean and the gas removed, even by the mouth, that it might afford at least temporary relief, and possibly offer means subsequently to institute a natural peristalsis. While she was in a semi-comatose condition the stomach was washed out at very short intervals during the entire night with a solution of soda. Enormous quantities of gas were removed at each washing, together with considerable fecal matter. The washing was continued in each instance until the water returned perfectly clear. It was remarkable to note the very decided relief of the abdominal distension under the bandages at each time. The improvement in the mental condition soon became marked. Stimulation was continued as vigorously as seemed justified, and the washings were continued at short intervals during the next three days. Renewed efforts to move the bowels were finally successful, and in the course of a week normal peristalsis was restored. The patient continued to a most gratifying recovery for a period of nearly seven weeks, and was meantime up and about her room, when there suddenly developed symptoms of acute intestinal obstruction. Operation disclosed most formidable adhesions, involving a great mass of intestinal coils, which were broken up with great difficulty. The patient, however, failed to survive the operation.

This case is cited as illustrating the statement previously made, that a genuine involvement of the appendix may exist without any early external evidence of its presence being obtained through the medium of an exhaustive physical examination. In this case the general and constitutional symptoms were sufficiently definite to characterize the attack as a most serious abdominal condition of some kind. A reasonable doubt existing as to its actual nature through failure to discover definite physical evidences of appendicitis, there was permitted to take place a most disastrous period of delay, which eventually resulted in the death of the patient. The lesson to be drawn from such an experience is plain to the effect that, in the presence of such an acute onset, severe abdominal pain, with change in pulse and temperature, even despite absence of rigidity and tenderness over the region of the appendix, the only safe and rational course would have been to perform an exploratory laparotomy. It must be apparent that in similar cases the dangers of opening the abdomen for such purposes are comparatively slight, and that the dangers of delay are too terrible to demand enumeration. When in doubt early in the course of such acute abdominal affections, it must be recognized that the best interests of the patient are subserved by exposing him to the relatively slight dangers of abdominal section, in order to secure, first, definiteness of diagnosis, and, secondly, opportunity to invoke life-saving surgical aid. The experience afforded in the present instance has been the direct means of saving a considerable number of very important lives.

CASE 3.—The patient, a man aged 50, was awakened on the night of March 12, 1901, complaining of slight non-localized abdominal pain. There was neither nausea, vomiting nor chill.

Examination.—On account of the persistence of the pain he came under my observation some two hours following its onset. His temperature was normal, pulse good and expression natural. There was complete absence of resistance over the region of the appendix, and but exceedingly slight tenderness on very deep pressure. A provisional diagnosis of appendicitis was made at the time to the patient and family, which diagnosis was promptly ridiculed. Under local applications the pain gradually subsided and the patient fell asleep, not awakening for about five hours. On the following morning there was no change worthy of note either in the symptoms or in the results of physical examination. The patient was kept in bed throughout the day and seen again after a lapse of about five hours. There was absolutely nothing further recognized at this time. The abdominal muscles in the right iliac fossa were perfectly soft and non-resistant, the tenderness on deep pressure was so slight as to be scarcely worthy of mention. The matter of my provisional diagnosis was made the subject of some considerable levity by the patient, family and friends. I insisted, however, on the probable involvement of the appendix and urged strenuously a compliance with my instructions relative to rest and a limited diet. These instructions were scrupulously obeyed. Late on the evening of the same day he experienced a slight chill, followed by vomiting, the temperature rising to 100 and pulse to 90. Immediate consultation with two surgeons was suggested by me, in order that in case of a difference of opinion there might be an opportunity to

abide by the majority vote. The consultation was held at midnight. The temperature at this time was 101, pulse about 96. There was no change in the condition of the abdomen. It was the opinion of the two surgeons that the most probable diagnosis was a slight appendiceal involvement, probably catarrhal in type, with the preponderance of evidence strongly pointing to a speedy convalescence, without operation. Immediate surgical interference was not advised by them. Bearing in mind the lesson derived from the previous case, which had occurred but a short time preceding, it was my privilege to refuse to abide by their decision and to strongly insist on immediate exploratory operation. On opening the abdomen at 2 a. m. it was found that the appendix was already gangrenous, with a little spot at its tip in immediate danger of perforation. The patient made an uninterrupted recovery. It is unnecessary to state that had the operation been delayed many hours the chances for recovery would have been decidedly lessened, to say the least, and this in face of the fact that the condition had been of very short duration, and with almost entire absence of physical signs.

CASE 4.—The patient, a young man, aged 23, with fairly advanced chronic interstitial nephritis, was seized during the early morning hours of May 15, 1902, with severe pain in the region of the appendix. There was a pronounced rigor and distressing vomiting. At the time I saw him in the early forenoon there was marked rigidity of the muscles of the entire right side of the abdomen, with extreme tenderness. The pulse was 120, temperature 103. His expression was exceedingly pinched, countenance ashen, mental condition somewhat dull. The patient and family were informed immediately as to the nature of the condition and immediate operation strongly recommended. This was objected to temporarily on the ground of his kidney involvement, especially in view of a previous severe uremic attack of nearly a week's duration. The case was seen at once by Dr. C. A. Powers, who strongly indorsed my position relative to immediate operation. The patient was operated on without further delay, and a gangrenous appendix removed and convalescence rapidly established.

Many other similar cases in my experience could be cited to further illustrate, despite the relatively short period of duration of the disease before operation, the finding of most extensive pathologic change in the appendix. It is safe to assert that the appendiceal findings were such as to justify the belief in nearly all that, had the operation been delayed after the first twelve or eighteen hours, the chances for recovery would have been infinitely diminished. In each of these cases the patient was hurried to operation without any unnecessary delay.

CASE 5.—The patient, a man of 50, was seen by me in consultation on the evening of Nov. 16, 1902. It was ascertained that for one or two days he had complained of very slight pain in the region of the appendix without presenting other rational evidences of appendicitis. There was no elevation of temperature, the pulse had been 80 or under for the previous twenty-four hours. There was no nausea or vomiting. The attack of pain had followed quite hearty indulgence at a dinner given two nights previous. He presented the history of having had a distinct attack of appendicitis in Paris something over a year ago, and a slighter attack in New York some months ago. The question of recommending immediate operation or of attempting to tide him over by the method of Ochsner to an interval operation was thoroughly discussed by the two medical men in attendance beside myself. My own opinion was strongly in favor of immediate operation, which view, however, was not coincided in by the other medical attendants. The consultation took place at 7 o'clock in the evening, and it was determined to keep him under observation for the time being, to freely evacuate the bowels and feed by rectum, and later, after the lapse of some weeks, to present to him and his family the matter of an interval operation. The next morning at 7 o'clock he was seized with severe pain in the right side of the abdomen, chill and vomiting. His temperature arose immediately to 102, associated with a corresponding change for the worse in the pulse. He was hurried to the hospital and operated on forthwith. The appendix was found down by adhesions and was found to be distinctly gangrenous in spots and apparently ready for perforation.

While no appreciable harm in this instance followed the adoption of the policy of delay, it is easy to recognise the dangerous position which is assumed in withholding operation in the early stages of appendicitis, despite the comparative benignancy of all the symptoms connected with the case.

The last case to be reported is that of my wife.

CASE 6.—On the evening of Feb. 10, 1904, on returning to my house for dinner, I was informed that Mrs. B. had not been feeling quite well for the past one or two hours. She had attended a luncheon at noon, had been driving subsequently, and had attended a reception in the late afternoon. While in the carriage on her way home she experienced slight abdominal pain sufficient to impel her to recline on reaching home. When seen by me her expression was excellent, temperature 99 and pulse 84. There had been no chill and no vomiting. The pain had entirely disappeared, and she said she felt as well as ever. I insisted, however, on making an examination of the abdomen before permitting her to get up, and found to my surprise slight resistance and tenderness over the region of the appendix. Immediate operation was quickly determined on, and Drs. C. A. Powers, W. S. Bagot and H. T. Pershing were summoned to my aid in consultation, all of whom coincided with me fully in my conception of her needs. She was at once removed to the hospital, and the operation was performed by Dr. Powers with the slightest possible delay. On opening the abdomen a considerable quantity of serous exudate presented itself. The appendix was found to be intensely inflamed, with the finer blood vessels of the surrounding parts much engorged. The wound was completely closed following the operation, and she made an uninterrupted recovery.

The incontrovertible deduction from such an experience as this is to the effect that in this instance such early surgical interference was far superior to an interval operation, even could it be determined definitely that the patient would survive the acute attack and pass on to the time thought appropriate for the subsequent operation. This is true, first, because of the entire absence of adhesions which so frequently render difficult the work of the surgeon at the time of interval operation; secondly, because of the avoidance of the suspense, uncertainty and dangers attending the management of the acute stage of the disease without operation, and, thirdly, because of the opportunity afforded in the early operation to close the wound immediately without drainage, and thus secure not only a more speedy and less painful convalescence, but also to obtain a firm, unyielding scar, devoid of the subsequent danger of hernia. One of the important lessons to be derived from this case is the disproportion between the pathologic condition and the rational symptoms of the disease. The fact that a patient could feel as well as usual following slight abdominal pain, without elevation of temperature or pulse, without vomiting or chill, and still on operation present an appendix with such distinct pathologic changes, presents an insuperable argument in favor of operation in the first few hours following the onset of the affection. To permit of such possibility, it is apparent that the factor of supreme importance in such conditions is found in early diagnosis. Such beneficent accomplishment can only be obtained through the intelligence, skill and sagacity, not of the surgeon, but of the attending physician. It is on him alone that the welfare of countless lives in the next decade will be directly imposed.

I am not aware to what extent the views here enunciated will accord with the opinions of surgeons possessing

vastly more experience, and, therefore, infinitely better qualified to define their conclusions. It does appear, however, that the subject is of sufficient importance to justify before this body the presentation of a relatively slight experience, in the hope that, through a continued and broader discussion, more definite conceptions may be entertained of our attitude and responsibilities in such cases, and to the end that the medical profession will be enabled to cope to better advantage with one of the most serious affections at present engaging our attention.

THE DANGER OF ALLOWING WARTS AND MOLES TO REMAIN LEST THEY BECOME MALIGNANT.

WITH TWENTY-FIVE ILLUSTRATIVE CASES.*

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The title of this paper indicates its purpose. It is chiefly a clinical paper, intended to emphasize the danger of not removing warts and moles, and sometimes nevi, lest they should become malignant, with 25 cases of such malignant degeneration, 12 from my own patients and 13 histories kindly furnished me by friends. Of course, the great majority of such growths never do undergo malignant degeneration, but as one can never tell which will and which will not become malignant, it is of the utmost importance, unless circumstances render it inadvisable, that they should be removed before a malignant change occurs.

Many moles and warts are congenital; others arise later in life, either in childhood or adult life, and still others frequently appear in elderly people. The ordinary warts which are so common on the hands of children, and which, as a rule, disappear as the child grows older, are not considered in this paper. It is those which remain and which involve a permanent possible danger which I shall consider.

All such growths are exposed to traumatism, such as blows, friction of the clothing, scratching on account of the itching, or, in many cases, on account of the presence of a little scab—and who can or does resist the temptation to scratch off these scabs?

In consequence of such injury or repeated and long-continued irritation—or in other cases without any assignable cause—they begin to increase in size. This sudden activity and increase in size usually does not occur for months or more likely years; it may be thirty, forty or fifty years, or even more after the mole or wart was first noticed. The moment they begin to increase in size they are, I believe, almost invariably already malignant growths, and should be treated as such.

The patient has been lulled into fancied security by the insignificance and apparent harmlessness of such a mole or wart which existed, perhaps, as long as the patient can remember. No apparent reason exists for removing it to-day rather than to-morrow, this year rather than next year. Once, however, that it has begun to grow, he begins to worry, and probably will try to cut it away, or not infrequently, women will twist a string or very often a long hair around it. When imperfectly removed by such methods, especially if they have already begun to grow, the glands soon become involved and in a number of cases a general sarcomatosis follows. The danger of waiting until they have manifestly begun to grow and are, therefore, already malignant, is shown by the fact that ever after amputation of a hand or a foot, they will recur in the glands or in the internal organs.

A number of pathologists, following the views of Unna, first enunciated in 1892, are disposed to maintain that many, if not most, of these are epitheliomata rather than sarcomata. Other pathologists, however, regard them as true sarcomata. Those which arise from warts proper, I believe, are generally epithelial carcinomata. In a number of the cases that I report, however, especially those arising from moles, the microscopic examination showed that they were unquestionably sarcomata. Their clinical course and the macroscopic appearances are also decidedly in favor of their sarcomatous nature. In addition to this, not infrequently their sarcomatous nature is emphasized, as already stated, by a general sarcomatosis, a multiple recurrence which I have not observed in the epithelial carcinomata.

The recent paper of Wilson and Kalteyer,[1] in which one case was reported and 50 others collected from recent literature, very strikingly emphasizes the danger of leaving such growths undisturbed until they grow. Of the 51 cases there reported, 69 per cent. had their origin in a mole or a nevus. Of the 45 cases of melano-sarcoma which had occurred in the London Hospital in twenty years, which Eves[2] collected, 33 occurred in the skin, and of the 33, 26 began in pigmented moles. Both in Wilson's and in Eves' collected cases, the malignant changes seem to have been started in a number of cases by trauma. Even so slight but constantly recurring an injury as combing the hair, by which the growth was frequently irritated and made to bleed, in one, or the rubbing of the collar in another of the cases here reported, seems to have been the cause of the malignant degeneration.

The treatment frequently advised both by surgeons and dermatologists seems to me to lack appreciation of the need for total thorough excision before they begin to grow, for when they begin to grow they are already, as a rule, malignant. Hence I desire to emphasize the need for total excision before malignancy begins, i. e., during the quiescent and apparently harmless stage. Especially bad, I think, is the advice of Crocker,[3] that they should "be shaved down with a scalpel and then have carbolic acid applied to them," instead of recommending absolute excision of the entire growth, including the skin from which they arise. Repeatedly, one finds the advice that "a mole which shows signs of activity in an elderly person should be removed at once." Such moles should be removed prior to the least "sign of activity." Even Wilson and Kalteyer speak of the "importance of early radical surgical interference in which tumors spring from pigmented moles." Instead of this, again I would strongly urge that the pigmented mole should have been removed before any tumor sprung from it.

The family physician is the one on whom the responsibility rests for this early removal, and to him especially is my appeal directed. Often when the surgeon is consulted it is too late, and the patient's life is sacrificed.

The 25 cases which I give are sufficient to emphasize

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. H. Moore.

1. Amer. Jour. Med. Sci., November, 1902.
2. Practitioner, February, 1902.
3. Diseases of the Skin, 3d ed., 1902, p. 577.

the proper treatment. Only by iteration and reiteration can the bulk of the profession be reached by such warnings. The general practitioner is the one who sees these patients in the pre-malignant stage, when, as a rule, removal would be easy, the resulting scar would be much less of a deformity than the existing wart, mole or nevus, and the danger of malignant degeneration would be entirely eliminated.

The cases reported here have arisen on the wrist, sternum, ankle, scalp, toe, abdomen, scapula, the lumbar and dorsal regions of the back, the nose, vulva, elbow and cheek. Few regions of the body, therefore, are exempt. Many of them exist on parts of the body covered by the clothing, when not even the unsightliness of a scar could be pleaded as a reason for their non-removal; but no matter where they are, and even if a visible scar should be unavoidable, it is the duty of the physician to remove them prior to the onset of any malignant change. The operations for their removal in most cases are so simple that they can be done by the family physician. If, as will rarely be the case, they require a more serious dissection, of if the physician has not at command either the knowledge and skill or the proper facilities for their complete removal, then the aid of a surgeon should be invoked.

In a number of cases reported, the moles or warts were either congenital or had existed as long as the patient could remember (when they probably were congenital); a few of them arose at about 20 years of age; a few later in life. But, as will be seen, malignant degeneration often began after the mole or wart had existed for 30, 40 or even 50 years as a harmless deformity only to become finally a serious menace to life, and in many of the cases they have actually cost the patient his life.[1]

I beg to call attention especially to Case 8 (Fig. 2), which shows that I did not extirpate the entire growth in spite of my desire to do so. Forewarned by my own error in this case, surgeons, I hope, will look more sharply at the tissues in order to be certain that the entire growth was removed. Drs. Ellis and Coplin, it will be observed, also overlooked the error in their ocular examination of the specimen.

CASE 1.—*Birthmark Over the Left Scapula; Extensive Malignant Growth Involving the Scapula and the Axilla; Interscapulo-thoracic Amputation; Death from Anuria 31 Hours After Operation.*

History.—Joseph W., aged 49, Lansdowne, Pa., first consulted me Feb. 12, 1896, at the request of the late Dr. J. M. DaCosta. His father and paternal grandfather died of old age; his mother is still living and healthy. Over the middle of the posterior border of the left scapula he has always had a birthmark. Eighteen months ago it began to grow. Plasters of some kind were applied to it, and it finally "fell out." Soon after that a large tumor began to form over the left scapula.

Examination.—I found a stout, healthy-looking man, weighing 165 pounds. The whole of the spinous portion of the scapula, especially toward the axillary border, was involved in a tumor the size of a large flat. The tissues in the axilla also were involved up to the level of the scapula. I was unable to determine whether the supraclavicular glands were involved. The skin itself did not appear to be involved over any portion of the tumor except at its middle, where it was adherent to the tumor. The skin on his back was studded with 20 or 30 other congenital nevi. I advised amputation of the entire upper extremity as the only possible chance of life.

Operation.—March 19, 1896. After four days of preparation in bed, during which his secretions were regulated, I first removed the middle half of the clavicle, and then, without difficulty ligated the subclavian artery and vein. To facilitate access to the vessels from the first clavicular incision, I made an incision 5 cm. long in the groove between the deltoid and the pectoralis major toward the axilla. Having secured the vessels, I then prolonged the second incision to the anterior border of the axilla and separated the muscles. I then opened the axilla, securing the smaller vessels as they were divided. A number of axillary glands at this point were attached to the vessels, but were all removed later in one mass with the arm. As soon as the scapula was well separated from the trunk, I divided the nerves. This allowed the scapula to fall away from the trunk very widely. My incision was then prolonged down on the arm well toward the elbow, where I made a circular incision around the arm and dissected off the flap from the arm. This gave me a long flap with which to cover the gap caused by removal of the scapula. Dissecting the healthy skin over the scapula backward, I then separated the attachments of the scapula along both its superior and posterior borders, thus severing the entire limb from the trunk. On approximating the flap, I found that I had more than was necessary to close the wound, and cut away some 6 or 7 cm. of the lower portion.

Results.—Until toward the end of the operation he did very well. Then his pulse began to fail and his color became very bad. Drs. T. S. K. Morton and G. G. Davis, who were assisting me, then infused 14 oz. of normal salt solution through the veins of the other arm. This improved his pulse and his color, but he was still in a very feeble condition at the close of the operation. He died 31 hours later, his kidneys not having secreted any urine after the operation. His temperature for the first 24 hours, up to 12 noon of the day succeeding the operation, had only once been above 100. In the next eight hours, up to the time of his death, it rose rapidly till it reached 108.4.

Microscopic Examination.—Dr. D. Braden Kyle, who made the microscopic examination, reported that it was a round-cell sarcoma.

CASE 2.—*Wart Below the Internal Malleolus from Childhood; Sarcomatous Degeneration at about Sixty Years of Age, with Later Involvement of the Saphenous Glands; Removal of Glands; Amputation of Leg; Recurrence in Groin and Internally, Followed by Death.*

History.—Mrs. F., aged about 60, was first seen in consultation with Dr. Rhoads, Feb. 7, 1894. Ever since she can remember she had a wart on the right ankle, just below the inner malleolus. In 1889, five years ago, this began to enlarge, and some time afterward the late Dr. J. E. Garretson, a dentist, transfixed it with a pin and ligated it. It soon returned, and a year later was again pinned and ligated by her son, who was also a dentist. Recurrence again took place, and in July, 1893, the growth was again transfixed and ligated by Dr. Garretson. Ten months before the last operation the saphenous glands were observed to be enlarged. At the time of the last operation the saphenous tumor had grown to the size of a lady apple. A considerable amount of pigmentation also had appeared in the neighborhood of the original tumor, extending toward the toes.

Examination.—When I first saw her the pigmentation of the skin filled up half the space between the malleolus and the heel and extended toward the toes for a distance of over 6 cm. There were a large number of circular areas of black discoloration, many of which were fused together into irregular masses. On the inside of the right thigh, extending from Poupart's ligament downward, was a mass of glands the size of a fist. On the front of the leg, a little above the ankle, also were two nodules in the skin the size of large peas. The mass in the thigh was discolored, traversed by enlarged veins, and was the source of great pain. In addition to this, she had at times a considerable dyspnea and a great deal of pain in the right chest. A careful examination, however, did not disclose any signs of a tumor in the chest.

In view of the pain, I advised that an attempt should be made to remove the glandular mass at the saphenous opening. If I should be able to dissect this off from the vessels, of which I was by no means sure, then as soon as her general condition would allow I advised that the leg should be amputated just below the tubercle of the tibia.

1. In the Brit. Med. Jour. 1904, vol. i, p. 1300, June 4, in an excellent paper on the "Essential Similarity of Innocent and Malignant Tumors," Cathcart reports a number of cases similar to those reported in this paper.

Operation.—Feb. 13, 1904. I made an elliptical incision over the saphenous glands so as to remove all the diseased portion of the skin. The glands were very adherent to the femoral artery and vein, but with great difficulty I finally was able to remove them without injury to the vessels. The glands extended up to, and, in fact, bulged into the femoral ring. The fascia lata was removed from an area nearly as large as the hand. Prompt recovery followed, the stitches all being out in a week. The pain almost entirely ceased after removal of the glands, and the foot and the chest were no longer sources of irritation.

In view of her battered general condition, I proceeded to the amputation.

Second Operation.—Amputation, February 23. The leg was amputated by antero-posterior flaps of skin, with a circular flap of the muscles about 3 cm. below the tubercle of the tibia. The patient made a steady recovery from the second operation, with the exception of sleeplessness, which was very marked. For this bromid was given up to 90 grs. a day, but after three or four days this produced undue somnolence and with it considerable mental aberration, both of which ceased on stopping the remedy.

She left the hospital well fifteen days after the operation. I learned that recurrence took place a few months later both in the groin and internally—just where, I did not learn. She died Nov. 16, 1904.

CASE 3.—*Wart Above the Left Ear for Many Years; Removal After It Had Attained Considerable Size; Two Recurrences, Followed by Death.*

W. H. B., aged 43, was first seen Jan. 5, 1896, at the Reading Hospital, in consultation with Dr. Samuel L. Kurtz. For many years he had had a little wart above his left ear, which from time to time he irritated by picking. Nearly a year ago it began to enlarge.

Examination.—When I saw him there was a sarcomatous mass, about 7.5 cm., vertically and also transversely, the lower border nearly touching the external ear. No enlarged glands were perceptible.

Operation.—After careful disinfection, I removed the entire mass. The bone underneath was quite free from any involvement. By lifting two large flaps, one extending as far as the border of the hair on the forehead and the other well back on the occipital bone, and by loosening the scalp in front and behind these two flaps and sliding the tissues, I was able to close the entire wound, excepting two small gaps about a finger's breadth, one anteriorly and the other posteriorly. He made an excellent recovery and left the hospital thirteen days after the operation. The gaps were cicatrizing very nicely.

Results.—By a letter from Dr. Kurtz, dated March 2, 1904, I learn that in the latter part of 1896 (nearly a year after the operation) there was a recurrence of the growth on the left side of the neck, about 5 cm. below the ear. This was removed by Dr. Kurtz on March 30, 1896. Within a year after this, however, there was a second recurrence in the neck. He refused further operation and died during 1897. No microscopic examination of the tumor was obtained, but clinically I should consider it a sarcoma.

CASE 4.—*Wart on Dorsum of Hand for Six Months, Becoming Malignant; Removal of the Growth; Recurrence; Death Five Years Later Without Recurrence.*

History.—Fred H. S., aged 64, New Albany, Pa., was first seen Feb. 20, 1894. His family and personal history were of no importance. Six months ago he first noticed a small wart on the dorsum of the right hand. He irritated this by using a knife in attempting to remove it. Soon afterward it started growing slowly.

Examination.—At present it is about 4.5 cm. in diameter. It is slightly painful at times; not painful on pressure, except around the margins. There is no discharge, but it bleeds very easily. There is no apparent enlargement of the axillary glands. Heart enlarged, sounds rather feeble, apex beat displaced somewhat to the left. The senile cachexia is marked, and he probably has a fatty heart. Urine normal.

Operation.—Feb. 22, 1894. The tumor was removed by an incision a considerable distance beyond the diseased tissue. It was found not to penetrate more deeply than the skin. So much was removed that it was impossible to get the edges together. Skin grafting was done one week later.

A letter from his brother-in-law, dated March 4, 1904, tells me he died in 1899, five years after the operation, and that no recurrence ever took place in the hand, nor did the axillary glands ever enlarge.

CASE 5.—*Congenital Pigmented Mole on the Inner Side of the Left Second Toe; Began Growing After Forty Years; Operation; Recurrence in Situ; Second Operation; Recurrence in the Saphenous and Pelvic Glands; Third Operation; Recovery; Death from General Sarcomatosis.*

History.—James W. P., of Philadelphia, aged 40, first consulted me Sept. 22, 1900, at the request of Dr. E. W. Talley. As long as he can remember he has had a little discolored mole on the inner side of the left second toe, about the junction of the second and third phalanges. In May or June of 1900, when he was 40 years of age, it began to enlarge, and a month before he saw me it was removed. It is stated that an examination was made which showed that it was a small, round-celled sarcoma.

Examination.—When I first saw him there was a beginning recurrence in the scar. I immediately amputated the entire toe, together with the head of the metatarsal bone. He made a perfectly smooth recovery and went home in a few days. This specimen was given to Professor Coplin and was examined by him and Dr. R. C. Rosenberger. They reported "that histologic examination shows the specimen to be covered on one surface with stratified squamous epithelial cells, the upper layers of which are distinctly coralified. A large number of what appear to be transverse and longitudinal sections of sweat glands are seen, together with a certain quantity of muscular and adipose tissue. In the subcutaneous connective tissue a small number of lymphoid cells are present. In other areas there is a beginning proliferation of the lower layers of the squamous epithelial cells, but these do not project into the connective tissue.

Diagnosis.—The only change demonstrable in the material at hand is evidently inflammatory in nature."

I saw him again on July 30, 1903, nearly three years after the amputation of the toe. He stated that about a year ago he first noticed a little lump in the scar of my operation of 1900, but that it did not give him any pain until within a few days. On examination, I found a small bluish tumor situated at a point corresponding to the amputated head of the metatarsal bone, which suggested at once a pigmented sarcoma. I, therefore, examined the saphenous glands and found distinct glandular enlargement there, and also, on examination of the abdomen, involvement of the iliac glands. He himself was not aware of the glandular enlargement. Had the glands not been involved, I should have advised an amputation of the leg, but in view of the glandular involvement, this would evidently be of no use. I therefore advised the extirpation of the local tumor in the foot and of the saphenous and iliac glands, although, as I explained to him, it was quite a forlorn hope. He immediately accepted my advice.

Operation.—Aug. 3, 1903. I first removed the tumor, with the remaining portion of the metatarsal bone. I was able, though with some mechanical difficulty, to make a very satisfactory operation, for the tumor seemed to be well encapsulated. Next, through a vertical incision over the saphenous glands, I dissected them out, but with much difficulty. They lay on both sides of the femoral vessels and were quite adherent to them. From the glands downward there were two or three small cords about as thick as catgut, presumably lymphatic vessels, which at certain spots showed black oval nodules, producing slight swelling in the cords. This I presumed to be melanotic sarcomatous material. All of these cords were removed as far as any visible disease extended. I then made an incision parallel with Poupart's ligament, and stripped up the peritoneum with ease. This disclosed a number of glands which lay in immediate contact with the external iliac artery, and especially the vein. One was found as high as the common iliac vessels, and another lay in the obturator foramen. The last one was quite as large as a chestnut, and was very difficult of removal. I finally succeeded in removing all of the glands, which were all dark mottled in color, evidently melanotic sarcoma.

Not long after his recovery from the operation a general sarcomatosis set in, and he died Sept. 25, 1903, with tumors throughout the entire body.

MICROSCOPIC EXAMINATION.

The specimens were examined by Professor Coplin and Dr. Rosenberger. They reported as follows: The tumor from the foot is 3 cm. in diameter; some areas are brownish-black while others are pinkish in color. It is apparently encapsulated by fibrous connective tissue. On histologic examination the tumor from the foot shows a number of nodules made up almost entirely of deeply pigmented cells. In some nodules there is a faint suggestion of an alveolar arrangement, while the nodules forming the larger mass are outlined by fusiform cells resembling fibroblasts; at other points cross sections of blood spaces passing through closely packed masses of cells are recognized; the coats of the blood vessels are infiltrated and in some of them, where the coats are still intact, fragmented cells can be seen in the lumina. The cells are for the most part irregularly round, due no doubt to the influence of reciprocal pressure.

The glands from the groin are of a brownish-black color throughout excepting for a few bands of grayish-white connective tissue. From the suspected gland there is a thread-like structure, partly black and partly gray in color. Sections of the gland it is found are largely infiltrated lymph channel. Some of the glands still contain more or less unaltered lymphoid tissue. The trabeculæ are infiltrated by foreign cells clearly identical with those seen in the primary neoplasm of the foot. Many of the cells are loaded with pigment and for the most part are mononuclear, though some contain two and others three nuclei. Here and there are small blood vessels, the coats of which are infiltrated by cells identical with those comprising the original neoplasm. Small areas of coagulation necrosis are also distributed throughout the specimen.

Examination of the thread-like structure attached to the suspicious glands shows it to consist mostly of embryonic tissue containing, in some sections, numerous pigmented cells similar to those noticed in the tumor proper. A distinct lumen could not be made out, but in some sections the appearance observed was such as might result from occlusion of a lymph vessel and subsequent cellular infiltration of its wall. Where this appearance is most marked, resembling a section of the vessel, the opening corresponding to a lumen is surrounded or lined by pigmented cells.

Diagnosis.—Alveolar, mixed cell, melanotic sarcoma of the corium or subcutaneous tissue of the foot, with metastasis of the lymph glands.

CASE 6.—*Mole at the Level of the Umbilicus on the Left Side; Removed by Tying a Thread Around It; Enlarged Glands in the Armpit and at the Border of the Left Breast; Operation Declined.*

History.—Mrs. R. H., aged 47, first consulted me Sept. 18, 1903. Her best weight three years ago was 150 pounds, her present weight about 169 pounds. She was married at 18, has had twelve children and one miscarriage. She was born with a mole on the left side of the abdomen, on a level with the umbilicus. A year ago, as it had been enlarging and had reached the size of a walnut and began to bleed, she tied a thread around it. The mole fell off, leaving a scar about 1 cm. in diameter. The application of the thread caused pain in the left breast, armpit and shoulder-blade. A month after it was detached she noticed a lump in the left armpit, which had grown slowly of late and had become painful. Her appearance would indicate a woman of 60 rather than 47. In the left armpit, at the pectoral border, was a gland as large as a small egg, movable and slightly painful. At the outer border of the left breast also was a second small lump, about 5 mm. in diameter.

She declined operation, and I have lost sight of her.

CASE 7.—*Wart on the Back of Hand Becoming Malignant; Amputation at the Junction of the Middle and Lower Thirds of the Forearm; Malignant Growth in the Armpit; Death from Erysipelas Four Months After a Second Operation.*

History.—Mr. J. P. M., aged 62, Shamokin, Pa., was kindly referred to me Feb. 25, 1896, by Dr. D. S. Hollenbeck. The family history is unimportant. In 1892 a small wart appeared on the back of his right hand without any known cause. It gradually increased in size until it covered nearly the whole dorsum. In May, 1894, the arm was amputated at the junction of the lower and middle thirds of the forearm. In January, 1896, he noticed a tumor in the right armpit. This has continued to grow, but gives him no pain, although the tumor is nearly the size of a fist. Urine normal.

Operation.—Feb. 26, 1896. I cleaned out the entire axilla, not only the enlarged glands noted above, but all the rest. As the tumor lay between the anterior and posterior muscular boundaries of the axilla, I did not remove the muscles. He made an uneventful recovery. On March 16, 1896, he returned to the hospital with a recurrence in the armpit. This tumor was removed by Dr. W. Joseph Hearn, and was again followed by an uneventful recovery. On July 27, 1896, he died of erysipelas.

CASE 8.—*Pigmented Mole on the Back of the Wrist Since Childhood; Malignant Degeneration at 38 Years of Age, with Involvement of the Axillary Glands; Operation; Recurrence at the Wrist and in the Arm.*

History.—Robert X., aged 39, first consulted me Feb. 9, 1904. His father's father died instantly of supposed heart disease at about 70; his father's mother at 83 of paralysis; mother's father, cause of death and age are uncertain; mother's mother died at 60 from an accident. His father is living at 75, in excellent health, and his mother, at 66, in her usual health, though not very strong. His parents are first cousins. One sister died of consumption. As long as he remembers he has had a little mole just above the left wrist on the back of the forearm. It was not raised above the surface, and there were no hairs growing from it. In July, 1903, it began to grow and

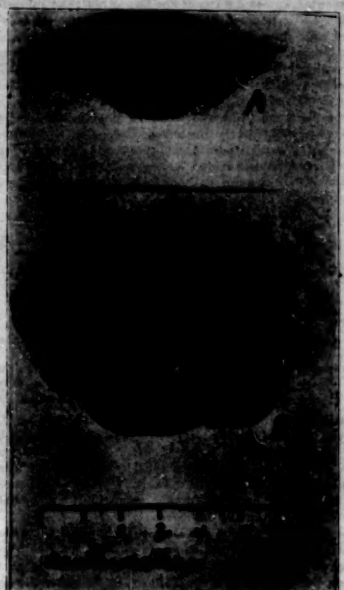

Fig. 1.—A Sarcomatous growth from a long-existing pigmented mole on the wrist. B—Infected and enlarged gland from the corresponding axilla.

has steadily increased in size until now it is a pedunculated ulcerated growth, about 3 cm. by 2 cm. It is very black. This may be partially due to some iodin which he recently applied to it. About the end of November or beginning of December he accidentally observed a lump in the left axilla. This is about the size of an English walnut. Between the tumor at the wrist and the axilla no evidence whatever of any disease exists. The supratrochlear gland could not be discovered. I am not quite sure whether in the supraclavicular space there are any enlarged glands or not. I advised instant removal both of the growth on the arm and also that in the axilla.

Operation.—February 12. I first excised the growth on the wrist (Fig. 1, A). I found, happily, that it did not go through the superficial fascia, but was limited to the skin. I then dissected out two large glands forming the palpable tumor in the

axilla (Fig. 1, B) and found a number of smaller glands which were more or less enlarged. I therefore removed the fatty tissue and all the glands in the axilla.

Section of the original tumor on the wrist showed that it was a melanotic sarcoma. Section of the two glands, however, showed no pigmented portion, excepting one spot in each. In one of these it was a rather long, black streak, in the other a small spot. One of the small glands, however, looked very much more suspiciously like a melanotic sarcoma. The full microscopic examination of the tumors by Drs. Ellis and Coplin is appended to demonstrate their sarcomatous character.

It was impossible, of course, to disinfect the growth on the wrist, which he facetiously called his "chocolate caramel," and this wound became infected. In addition to this, a second cause of infection was found in the very great tension of the stitches in the attempt to bring the margins together, which produced a little slough around each stitch. I removed three of the stitches on the second day and two more on the fourth day after operation, which allowed a certain amount of gaping, but prevented any sloughing of the flap other than immediately around the stitch openings. In a week all the stitches were removed and adhesive plaster only was used. Two stitch abscesses formed in the wound in the axilla, though there was scarcely any tension. The infection was entirely limited to the lower part of the wound, where these stitches were; otherwise healing by primary union occurred. He went home twelve days after the operation with the wound almost healed, and a few days later it was entirely cicatrized.

March 12, 1904. Under local anesthesia I removed to-day two small tumors, about the size of peas, which had appeared alongside of the median cephalic vein. The microscopic examination again is appended.

Fig. 2.—Diagrammatic view of tumor in profile showing relation to parts of skin. A—Tumor. B—Epiderm, the thickness of which is somewhat exaggerated for the purpose of making the diagram clear. C—Corium. D—Portion of tumor not removed at operation.

April 14, 1904. He returned to-day with another tumor, about the size of a small cherry, alongside of the median basilic vein. The scar at the wrist where I removed the primary growth is ulcerated and has a considerable area of apparent pigmented granulation tissue. There is no growth perceptible in the axilla. He declined further operation. Since that date he has passed from under my care.

When Professor Coplin and Dr. Ellis examined the mole from the back of the wrist, from which originated the whole trouble, they found that evidently a portion of the base of the tumor had been left behind. Figure 2 shows, in a diagrammatic way, the tumor (a), and the shaded portion (d) the portion which presumably was not removed at operation. I particularly wish to emphasize this, because, so far as I was able to observe by the naked eye at the time of operation every portion of the tumor had been removed. Evidently I did not go deep enough, and my only excuse is that the tissues showed no visible disease, either to my eye or to Drs. Ellis and Coplin. Such a case, however, is a very distinct warning to the operator that he must remove the growth as far beyond the visible evidences of disease as possible. Fortunately, in this case I do not believe that the error did any harm, inasmuch as there was already glandular involvement, and, as seen by the speedy development of melanotic sarcomata in the arm, general infection had already taken place.

MICROSCOPIC EXAMINATION OF THE SPECIMENS FROM THE FIRST OPERATION.

BY DRS. ELLIS AND COPLIN.

Specimen.—A tumor from wrist and two others from the axilla. The specimen, already fixed in 10 per cent. formalin, consists of three parts.

Part 1 is an elliptical piece of skin 4 cm. long by 2 cm. in maximum width. It bears on the external surface a new growth, nearly circular in outline, that is 2 cm. in diameter and has an elevation of 0.8 cm. This growth is attached to the skin by a pedicle 1 cm. in diameter and so short as to render the overlying mass almost sessile in type. The tumor is dark in color with the exception of certain areas on the margin, where the skin appears to extend for some little distance over its surface; at isolated points the color is entirely black. This is particularly true of one margin which is the site of superficial erosion over an area 0.5 by 1 cm. in size. An incision which has divided the tumor into two nearly equal parts shows the cut surfaces to be alternately gray and brownish-black in color. The tumor appears to extend no deeper than the subcutaneous tissue which forms the inner surface of this part of the specimen.

Part 2 is made up of what appear to be two closely attached axillary lymph nodes and adherent fat, the nodes having been divided by a mesial longitudinal incision. They are 2.5 cm. long by 2 cm. thick. The cut surfaces are slightly lobulated and grayish in color. At one point near the middle of the incised surface is a depressed area 1 mm. wide and 4 mm. long that is black in color.

Part 3 is a very irregular mass of axillary fat and fascia containing numerous hard nodules varying from 0.2 to 0.8 cm. in diameter.

The smaller part of the tumor proper and portions of parts 2 and 3 were prepared for microscopic study. The remainder was fixed in Kaiserling's fluid. The former was properly prepared, embedded in paraffin and sectioned. Sections were stained with hematoxylin plus eosin or Van Gieson, toluidin blue, thionin, Mallory's reticulum stain, and Weigert's stain for elastic tissue.

Sections from part 1, cut in such manner as to include skin on either margin of the tumor, show the following: At either end is skin and subcutaneous tissue that presents no evident departure from the normal. These areas of subcutaneous tissue extend toward each other to form the margin of the section corresponding to the internal surface of the gross specimen, but do not quite meet. This leaves a small area formed of the new growth, through which the incision made in removing the tumor appears to have passed. Extending from this point through the section and rising to a considerable distance above the level of the skin surface the new growth makes up by far the greater part of the sections. It is composed largely of cells, but has a certain amount of supporting connective tissue that in some areas is quite prominent. The usual arrangement of the cells is that of variously sized masses separated by connective tissue fibrils, but in some areas this fibrous tissue is present in sufficient amount to form a conspicuous stroma. At a few points quite large fibrous masses, slightly or not at all infiltrated by tumor cells, which have undergone partial myxomatous transformation. Sections stained by Mallory's reticulum stain show in many of the cell masses a delicate pericellular fibrous reticulum, the fibrils of which are continuous with those of the enclosing stroma.

The cells of the tumor are round or slightly oval in shape and contain single nuclei that react well to nuclear stains. The cellular protoplasm stains indifferently and the external borders are illy defined. The cells vary in size, but on the whole are fairly constant, the vast majority measuring 15 to 20 microns. Many of these cells contain numerous granules of brownish or almost black pigment; this substance is also present between the cells and even in the fibrous stroma. In some areas this pigmentation is a very conspicuous feature of the section. Though the pigment is plentiful in and around areas of old or more recent hemorrhage, it is just as conspicuous in localities where no hemorrhage is found.

Blood vessels are few in number; though situated in the fibrous stroma they are usually thin-walled. The large part of the external surface of the tumor is formed of necrotic tissue densely infiltrated with polynuclear leucocytes, areas of coagulation necrosis being numerous. This part of the section corresponds to the areas of erosion noted in the gross specimen. Near the center of this margin is a small patch of excessively flattened, faintly staining epithelial cells, presumably a remnant of the epidermis carried outward by the advancing tumor. At the junction of the tumor with the skin the latter is seen to extend for some distance over the surface of the growth, gradually becoming thinner until it entirely disappears at no place is there evidence of proliferative changes in the epithelial layer of the skin thus situated.

Sections from Part 2 present much the same picture as those just described, the principal points of difference being a less distinct alveolar arrangement and a slightly more fusiform type of cell. Pigment-bearing cells are also absent. It is extremely difficult to show conclusively that these sections are from lymph nodes, owing to the fact that they are so largely occupied by the new growth. However, as one margin is a segment of a circle and is formed of a thick band of fibrous tissue containing numerous areas rich in lymphoid cells, it is probably safe to assume that this is the thickened capsule of a lymph node enclosing the new growth.

Sections from Part 3 are from lymph nodes that show hyperplastic changes but no clearly demonstrable new growth.

Diagnosis.—Melanotic alveolar sarcoma of skin with metastasis to axillary lymph nodes.

MICROSCOPIC EXAMINATION OF THE SPECIMEN FROM THE SECOND OPERATION.

BY DRS. ELLIS AND COPLIN.

Specimen.—Tumors from arm.

The specimen consists of two tiny, hard, rounded nodules to which are adhering small masses of adipose tissue. The larger is 0.6 cm. in length and 0.4 cm. in diameter. The smaller is globular in outline and 0.4 cm. in diameter. They are grayish in color. Both were fixed in Heidenhain's solution, dehydrated, cleared and embedded in paraffin. Sections properly stained exhibit the following characteristics:

They consist of oval or circular masses of tissue enclosed by a distinct fibrous capsule; attached to the external surface of the capsule are fragments of fibrous and adipose tissues. Thus far they correspond to the usual appearance of lymph nodes. Further examination shows, however, that the capsule does not enclose lymphadenoid tissue; the entire mass consists of a scanty fibrous stroma and masses of round or fusiform cells ranging from 15 to 20 microns in diameter. In some areas there is a tendency toward alveolar arrangement of the stroma and cells, but this is not a

conspicuous feature. A few of the cells contain granules of dark brown pigment.

Diagnosis and Remarks.—Melanotic alveolar sarcoma, the same diagnosis as that in a previous specimen from the same patient is given for the reason that the present sections are identical in structure with those from Part 2, the metastatic growth in that case.

CASE 9.—*Pigmented Mole on Right Temple Appearing at 42 Years of Age; Began to Grow Larger and to Become Much More Pigmented at 65 Years of Age; At 69 Years of Age a Carcinoma Developed in the Right Neck; Operation; Ligation of Carotid and Internal Jugular; Death in 48 Hours from Hemiplegia.*

History.—Mr. J. C., aged 70, was admitted to the Jefferson Hospital Feb. 29, 1904, at the request of Dr. West. His father died suddenly at 68 of an unknown cause; his mother at 49 of pneumonia. He had five brothers and sisters; all but one sister are dead of acute illnesses. He left Scotland in 1854, since which time he has seen none of his relatives and knows little about them. There is no family history of tuberculosis or malignant disease, but one brother had a large pigmented mole on the calf of his left leg, which, so far as he knows, never caused any trouble.

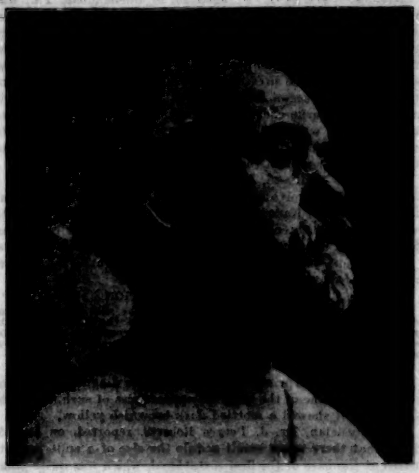

Fig. 3.—Large pigmented mole on right temple. Carcinoma of neck.

He had smallpox when a boy and cholera in 1849, but does not know whether he had any of the diseases of childhood. During the last fourteen years he has had six or seven attacks of gallstone colic, the last attack being ten months ago. In 1876, at the age of 42, he first noticed a brown mole on the right side of his head, nearly 2 cm. in diameter. It did not protrude above the surrounding skin. It very slowly increased in size and became somewhat elevated above the surrounding surface, so that in 1899, about 23 years after he first observed it, it had grown to about its present size (Fig. 3). At that time the growth was removed by the cautery. In two months after this operation the reddish scar began again to turn brown, and finally became black. The growth reappeared distinctly, and at the present time is raised fully 4 mm. above the surrounding skin and is about 3 cm. in diameter. Since the operation four years ago he has noticed two additional moles on the left side of his head (Fig. 4). These are scabby and brown in color, as was the original mole at first. About the end of November, 1903, he first noticed a small lump under the lower jaw on the right side of his neck. This has grown rapidly, so that at the present time there is a tumor on the right side of the neck as large as a moderate-sized fist, which is somewhat movable, but is evidently firmly attached to the deep structures in the neck. The mole never gave him any pain. The tumor has given him but little pain, except when it is handled, saving that during the week before his entrance he noticed at night a rather severe pain. This has never occurred in the day time.

Examination.—His general physical condition is good for a man of his age. In the right temple is a large, hairy pigmented mole of the above diameter, and on the left side the two already alluded to. Over his limbs and body there are a number of small wart-like brown moles. On the right side of the neck is a hard irregular mass, to which the skin is firmly attached, except at the borders. The inner border begins at about the middle line, the outer border reaches almost to the middle line of the neck posteriorly. The horizontal diameter is about 12 cm. and the vertical diameter 6.5 cm. Urine turbid, straw color, 1.016 acid, sugar 2½ grs. to the ounce, urea 0.6 per cent.; amorphous urates and phosphates, squamous and columnar epithelial cells, a few leucocytes.

Operation.—March 2. I first removed the pigmented mole on the right temple and the small brown mole on the left tem-

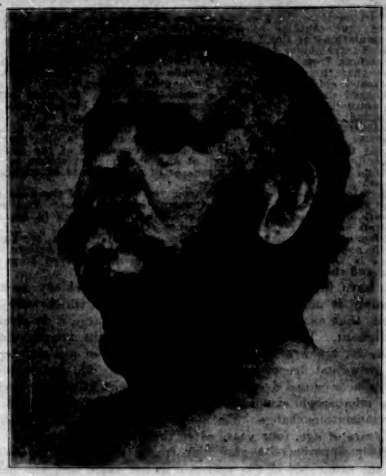

Fig. 4.—Small pigmented moles on left temple. Carcinoma on right side of neck.

ple. This did not involve anything more than the skin, and their removal was very simple. I then attacked the carcinoma of the neck by making an elliptical incision, beginning a little to the left of the middle line and extending nearly to the middle line posteriorly. After a long and tedious dissection, I finally removed the entire tumor. In doing so, I was obliged to tie the common carotid both above and below the tumor, and the jugular vein in two places likewise, but I was able to dissect out the pneumogastric and the sympathetic nerves, both of which lay posterior to the tumor, but in much less intimate connection with it than were the blood vessels. The phrenic nerve and also the cervical nerves were exposed by the dissection, but not injured. I was not able to bring together the margins of the wound, though I had made large skin flaps over the upper chest and held the head in right lateral flexion by means of a bandage around the forehead and a strip of bandage extending from this circular bandage down to a band around the chest.

Result.—The oozing from the wound was slight, but by the day after the operation he was distinctly paralyzed on the left side, due, undoubtedly, to the cutting off of the blood supply

to his brain. His breathing became stertorous, the right pupil widely dilated, the left contracted, and he died at 1:30 p. m. the next day, about forty-eight hours after the operation. Meantime, his temperature remained normal for the first twenty-four hours; after that it steadily rose till it reached 104.8; his pulse also increased from normal to 120, and his respiration to 32.

PATHOLOGIC REPORT.

BY DRS. COPLIN AND ELLIS.

Sections from the Tumor from the Neck.—These are composed largely of a new growth made up of cell masses and a fibrous stroma. The cells are rounded, polyhedral or fusiform in outline and are so placed as to form the enveloping wall of irregular spaces that are empty or contain a few degenerating cells. These walls are very thick, including dozens or scores of layers of cells that have evidently been derived from the proliferation of the cells originally forming the boundary of the spaces, which are undoubtedly dilated lymph sinuses. The fibrous stroma of the tumor varies in amount and texture. Usually it is quite abundant and in some areas is dense in type; for the most part it is loose and cellular and at certain points shows a tendency toward myxomatous transformation.

Sections that include the artery and vein show the former to be attached to the tumor-bearing mass by fibrous adhesions; its wall is not penetrated by the new growth. The artery is the seat of pronounced atheroma, this lesion involving much more proximally one-half of the circumference of the vessel. The vein wall has been partially destroyed by the tumor which projects into and nearly obliterates the lumen.

Sections from the glandular mass of tissue are from a salivary gland that contains no demonstrable new growth. Perivascular accumulations of small round cells are present and a moderate degree of intralobular fatty infiltration is also a feature.

Sections from the large mole from the right side of the head show that the elevated area is made up mainly of an enormously thickened epidermis, though the papillæ of the corium are also prolonged upward as loose, cellular extensions. At many points the epithelial cells have undergone disintegrative changes with the resulting formation of variously sized cavities. Many of the cells, particularly those in the near vicinity of papillæ, contain a large quantity of dark brown pigment. This material is also present, mainly intracellular in location, in the extremities of the papillæ. There is no evidence whatever of any abnormal extension of epithelium into the underlying tissue or of the presence of malignant growth.

Sections from the small mole from the left side of the head present an appearance very like that of the larger one. The overgrowth of the papillæ is more pronounced and cysts in the epithelium are larger and more numerous.

Diagnosis.—Cystadenoma endotheliomatosum of the neck; pigmented cystic papillomata of the head. We are not inclined to believe that there is any connection between the growths removed from the skin and the tumor from the neck.

I have included this case with the others chiefly because possibly it may be an exception to the rule which seems to exist, that as soon as a mole begins to enlarge it is already malignant. The pigmented mole of the right temple, which made its appearance when he was 42 years of age and began to grow and deepen in color when he was 65, would, probably, have caused a carcinoma or a sarcoma at a later period. The microscopic examination of this mole, however, shows no carcinomatous change. Yet, on the other hand, the patient at 60 years of age, four years after the mole began to grow, did develop apparently a glandular tumor under the lower jaw on the same side of the neck. Whether there was any nexus between these two growths is, of course, an open question. It is at least both curious and significant that after the growth of the mole the carcinoma developed on the same side of the neck. Whether, if this mole had been thoroughly extirpated before it began to enlarge, the carcinoma in the neck would not have appeared, of course one can not definitely determine. One thing, however, is certain, that if the mole had been removed before its growth began, it could not by any possibility have been responsible for the carcinoma in the neck. No other apparent cause for the up-springing of the carcinoma in the neck was discoverable.

CASE 10.—*A Presternal Wart Appearing at 20 Years of Age, Becoming Malignant 36 Years Later; Removal; No Recurrence After 7 Years.*

History.—John Y. E., aged 56, Royersford, Pa., first consulted me April 3, 1897, at the instance of Dr. Brower. When he was 20 years of age he first noticed a small wart in front of the sternum. This underwent no change until a few months ago. It then began to grow, at first slowly, but within the last few weeks quite rapidly. He has suffered no pain until recently. On examination I found a tumor 3x5 cm. in diameter just to the left of the middle line over the sternum, between the level of the second and third ribs. It was a very dark blue or purple color and was ulcerated over a large part of its surface. It was not attached to the sternum and there was no dissemination through the neighboring skin. No enlarged glands were perceptible. I removed it the same day without removing anything but the tumor and the tissues underneath it down to the sternum. He made an uneventful recovery and went home in a few days.

Dr. Kyle, who made the microscopic examination, reported as follows:

MICROSCOPIC EXAMINATION.

On section it was dark and granular in appearance, somewhat resembling an engorged spleen. From the cut surface a dark, thick fluid could be pressed out. Perpendicular sections directly through the center of the tumor showed embryonic connective tissue cells closely packed together, uniformly distributed, and held together by a homogeneous albuminous substance. The blood vessels were open channels without distinct walls. The cells varied in size and shape, some being round, others spindle-shaped, with here and there areas of pigmentation. Near the borders there was normal connective tissue.

Diagnosis.—Mixed cell sarcoma.

A letter from the patient dated March 15, 1904, reports him in excellent health, without any evidence of recurrence.

CASE 11.—*Callosity at the Ankle, Caused by a Shoe, Becoming Carcinomatous; Excision; No Recurrence After Seven and a Half Years.*

History.—Mrs. B. R. S., aged 23, of Shenandoah, Pa., was first seen Nov. 19, 1896, at the request of Dr. J. B. Davis. Her family history is excellent. She was married a year ago, but has not been pregnant. About a year and a half ago she first noticed a small lump on the front of the ankle, where the shoe produced some pressure, which had caused a callosity of the skin. This began to grow, until at the present time it is as large as a large chestnut. It is sessile. Apparently it has no connection with the parts underneath the skin; it is quite dense to the touch, but is not painful. No glands are perceptible in the groin or in the saphenous region. Urine normal.

Operation.—Nov. 20, 1896. I excised the growth, which I found did not involve any of the tissues below the superficial fascia. The subcutaneous tissues were removed along with the skin down to the tendons, but without opening their sheaths. She made an uneventful recovery and went home in a few days.

The tumor was examined by Dr. D. Braden Kyle, who reported as follows:

MICROSCOPIC EXAMINATION.

Sections perpendicular to the surface of the skin showed an infiltration of epithelial cells downward into the tissue beneath, with distinct nestlings of cells loosely adherent to the fibrous stroma. The fibrous stroma contained blood vessels with thickened walls and irregular lumen.

Diagnosis.—Carcinoma.

I was rather surprised at the microscopic diagnosis, for clinically it had none of the external appearances of such a growth. On section it showed a mottled dark brownish yellow.

Her physician, Dr. J. Pearce Roberts, reported, on Dec. 5, 1896, that there was a small nodule the size of a split pea situated at the base of the first metatarsal, which was quite painful to touch. On March 5, 1904, he reports that the little nodule on the dorsum of the foot still remains without any change.

While this case is not strictly one of either wart or mole, yet the character of the growth, as shown by microscopic examination and the absence of recurrence for so long, in spite of the appearance of the little nodule at the base of the first metatarsal, which is entirely independent of the growth which I removed, seems to me to make it worth while to add it to the present list of cases.

CASE 12.—*Congenital Mole of Umbilicus; Sarcomatous Degeneration After 45 Years; Immediate Excision; Recurrence in the Wall of the Abdomen; General Sarcomatosis.*

History.—Mrs. Dr. X., aged about 45, was first seen, with her husband, Dec. 12, 1902. As long as she can remember she has had a little mole just within the depression of the navel. In June, 1902, in consequence of its showing a tendency to grow, it was cauterized with nitrate of silver, and later a doctor attempted to remove it by electrolysis, transfixing it with needles. After rather prolonged treatment with the needles the mass dropped out, but soon recurred. When I saw her it was about the size of a pea, was ulcerated and discharging a small amount of pus. In addition to this, she had a fatty tumor the size of two fists in the left axilla.

Operation.—On Dec. 18, 1902, I removed the fatty tumor and excised widely the entire umbilicus and the surrounding tissues with the wart down to the peritoneum, without opening the abdominal cavity. She recovered in a few days. The umbilical tumor was given to Professor Coplin in the laboratory of the Jefferson. He reported that the little wart "was composed largely of nests of cells enclosed in a scanty fibrous stroma. The cells are chiefly of the small, round variety, though in a few areas they are somewhat spindle-shaped. Infiltration of these cells extends nearly half the length of the section, immediately beneath the skin margin. No distinct vessels are noted in the cell areas described. In other portions of the sections the vessels are practically normal. A small amount of pigment is present. Diagnosis: Alveola sarcoma, showing slight melanosis."

After the operation I saw her repeatedly and there has never been the slightest tendency to recurrence at the navel; but about the end of April, 1904, she noticed a small lump under the skin 5 cm. above and 3 cm. to the left of the former situation of the navel. From the age of 18 she has had some pelvic trouble, for which she has had various kinds of treatment, including a prolonged treatment by Apostoli in Paris. During the first week in May, 1904, her pelvic trouble seemed to be aggravated, and she had much pain in the right iliac fossa, together with some slight fever. For this Dr. James C. Wilson, the family physician, was called in. Her temperature rose to about 101, and examination of the blood at intervals of a few days showed a slowly increasing leucocytosis, beginning at 15,000, and on May 23 reached 19,000. There were no symptoms of appendicitis.

I was called in consultation on May 25, and concurred in Dr. Wilson's opinion that there was no evidence of an appendicitis or other suppurative process which we could discover. Examination of the uterus showed it to be enlarged to the level of the umbilicus and very adherent on the right side, and the seat of a number of myomata. She had marked and increasing pain on the outside of the right leg, especially above the external malleolus. No local reason for this could be discovered, and we were inclined to think that it was the result of pressure from the pelvic conditions. Meantime, however, bearing in mind the sarcomatous nature of the former umbilical tumor, we feared greatly a sarcomatous change either in the uterus or possibly in the iliac glands. Beside this, she manifested a distinctly cachectic appearance, which was very painfully evident to me when I saw her on May 25, after an interval of some weeks.

After a conference with her husband and Dr. J. M. Fisher it was decided that an abdominal section should be done, followed by such operation, including, if necessary, total hysterectomy, as the pelvic conditions indicated, and also that the tumor of the abdominal wall should be removed.

Second Operation.—On May 30, 1904, I did a hysterectomy. The uterus had a large number of myomata, with very dense adhesions on the right side. Other than the mechanical difficulty of the hysterectomy, there was nothing worthy of note. The tumor above and to the left of the umbilicus was removed. It was limited to the fatty tissue, which was rather abundant, and was about the size of a cherry. It had no adhesions either to the skin or the muscles. On section, the tumor was clearly a sarcoma.

In view of the fact that no lymphatic gland exists at the point where this tumor arose, and, therefore, that it was not a direct lymphatic infection from the umbilical tumor, it naturally gives rise to great apprehension lest it prove to be the beginning of a general sarcomatosis.[1]

Dr. Charles A. Powers of Denver has kindly furnished me with the following cases to reinforce the lesson of this paper:

CASE 13.—*Mole Over the First Lumbar Vertebra from Earliest Recollection; at 35 Years of Age It Began to Grow; Very Wide Extirpation; Axillary Recurrence After Two Years and a Half; Second Operation; Death Three Months Later from General Sarcomatosis.*

Eight or nine years ago Dr. S. G. Bonney brought to me a man of 35 years, who had a growing lump about the size of a filbert in the mid-line of the back over the first lumbar vertebra. He said that since his earliest recollection there had been a mole at this place; that about two months before a little fluid had gathered in it. He had shown it to a physician in a small New England town, who had simply opened it. When I saw the man the little lump presented the appearance of sarcoma. I removed it in rather wide limits under ether, and a frozen section was made on the spot by Dr. H. C. Crouch, then professor of pathology in the University of Colorado. Dr. Crouch pronounced it melanosarcoma, whereon I removed tissue over an area 6 inches long by 4 inches wide down to the vertebra. I saw the man frequently for two years, during which time nothing happened. He then disappeared for six months, when Dr. Bonney again brought him to me with an axillary mass the size of a small orange. This was removed as widely as possible and found to be melanosarcoma. Three months later the man died of general sarcomatosis. There was no recurrence in or about the original scar.

CASE 14.—*A Mole Over the Last Dorsal Vertebra; Sarcomatous Development; Removal; Recurrence; Second Operation 18 Months Later; Death Soon After.*

About two years ago I saw, in consultation with Dr. J. M. Walker and the late Dr. Clayton Parkhill of Denver, a middle-aged woman who had enormous, rapidly-growing tumors of both axillæ. In examining her, I noticed a small scar over the last dorsal vertebra and was told that a mole had been removed under cocain 18 months before, and that the physician had put it in a bottle of alcohol and given it to her husband. It was found and examined by Dr. J. A. Wilder, professor of pathology in the University of Denver, who reported it to be alveolar sarcoma. Parkhill had removed a sarcomatous mass. The woman died six weeks after I saw her.

CASE 15.—*Mole Over Second Lumbar Vertebra; Sarcomatous Degeneration in Middle Life; Removal; Recurrence in Situ in Three Months; Second Wide Removal; No Recurrence for Three Years.*

About three years ago Col. Henry Lippincott of the United States Army, then chief surgeon of the Department of the Colorado, brought to me a lady in middle life, the wife of an officer, who gave the following history: Three months before the physician at an army post in Arizona had removed a small "growing mole" from over the second lumbar vertebra. He had sent this to Dr. L. A. Conner of the pathological department of the New York Hospital, who had pronounced it myxo-fibro-sarcoma. When I saw the patient there was a return in the scar. The widest excision was made and the tissue sent to Dr. Conner, who pronounced it a "sarcoma." I heard recently from this lady. There is as yet no sign of relapse.

I have seen a number of cases in which epithelioma has followed long-existing warts. I can not give the exact number, but I definitely remember these:

CASE 16.—*Epithelioma of Nose from Wart.*

A year and a half ago I removed (at St. Luke's Hospital) a large epithelioma of the nose which developed from a wart.

CASE 17.—*Epithelioma of the Vulva Developing from Long-Existing Papilloma; No Recurrence After Four Years.*

Some four years ago I removed a fair-sized epithelioma (Dr. J. A. Wilder) of the vulva which developed from a long-existing papilloma. The inguinal glands of both sides were hyperplastic, but not cancerous. The woman was a patient of Dr. E. P. Anderson of Colorado Springs, and remains well.

CASE 18.—*Wart on the Scalp Developing into Epithelioma; Removal.*

While at the New York Cancer Hospital, twelve years ago or more, I removed a very large epithelioma of the scalp following a wart which "often bled when the hair was combed."

CASE 19.—*Wart at the Elbow Developing at the Age of 75 into Epithelioma; Death from Cancer of the Liver Two or Three Years Later.*

Twelve or fourteen years ago I removed, under cocain, a very small epithelioma developing from a wart just above the elbow in an old gentleman of 75 years, the father of my friend, Dr. A. There was no return in the scar, but I think he died of cancer of the liver two or three years later.

Dr. E. Wyllys Andrews also has kindly furnished me with the following cases:

CASE 20.—*Mole on the Cheek from Childhood; Malignant Degeneration at 70 Years of Age; Involvement of Submaxillary Glands.*

A man, aged 72, with hypertrophy of the prostate, sought Dr. Andrews' advice for the prostatic hypertrophy. He had lost weight in the previous few months. A mole on the left cheek, which had existed from childhood, became ulcerated and inflamed two years before Dr. Andrews saw him. A month later the submaxillary lymphatic glands on the same side began to enlarge. At the time when he consulted Dr. Andrews this tumor was about the size of an egg. On the left cheek where the mole had been there was a ragged ulcer 2 cm. in diameter, covered with a bloody crust; the base of the sore was hard and indurated, and the tumor in the neck was firmly attached to the deep structures, evidently a carcinoma. Suprapubic cystotomy by spinal anesthesia was performed in March, 1903, but the patient declined operation on the carcinoma and left the hospital at the end of March much improved in health. In December, 1903, his health was still much improved. The condition of the epithelioma has not changed.

CASE 21.—*Wart on Temple for Over 30 Years; Eight Months After It Began to Enlarge; Section Showed a Carcinomatous Growth; Cure by X-Rays.*

Mrs. McD., aged 67, had for over 30 years, and possibly much longer, a small warty tumor, the size of a small pea, near the outer angle of the right eye above the zygoma. In December, 1901, it began to enlarge. When seen first by Dr. Andrews, in August, 1902, it was 1.5 cm. in diameter, saucer-shaped, slightly excavated, with an indurated base. A small section showed a typical epithelioma. The diagnosis made was rodent ulcer. The ulcer was entirely cured by 20 or 25 exposures to the *x*-rays for from five to fifteen minutes at a distance of 10 to 30 cm.

CASE 22.—*Pigmented Mole for Many Years in Front of Ear; Carcinomatous Change Coincident with Growth.*

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1. June 25. She has suffered vague pains in the right leg and foot, right arm, shoulder and back. Within a few days there have developed three nodules on the right back, two on the right shoulder and one in the right great toe—all evidently sarcomata, and the earliest indications of a general sarcomatosis, which will soon terminate her life.

Man, aged 52, had a brownish mole 5 by 15 mm. in front of the left ear which had been noticed for many years. In the summer of 1902 it enlarged to a size of 2 cm., with an elevation of above 1 cm., with an indurated base and a sanious discharge. The whole growth and the skin from which it grew was removed. Microscopically, the tumor proved to be an epithelioma.

CASE 23.—*Mole on Back of Neck; Irritation by Collar; Development of Carcinoma.*

Man, aged 45, had a mole on the back of his neck, which was irritated by his collar and developed an epithelial cancer, as was verified by a microscopic diagnosis.

Dr. J. Chalmers DaCosta has given me the following brief history of a case of melanotic sarcoma:

CASE 24.—*Pigmented Mole on the Back of the Hand; After a Number of Years Malignant Degeneration and Axillary Involvement; Removal of the Mole and Cleaning Out of the Axilla; Recurrence in a Few Weeks, Followed by General Sarcomatosis; Death in Three Months.*

The patient was a man nearly 80 years of age. For a number of years he had had on the back of his hand a pigmented mole. Some time before I saw him this began to enlarge. When I saw him the glands in the corresponding axilla also were enlarged. The mole was removed and the axilla cleaned out. The glands removed were filled with pigment. A few weeks after the operation the glandular growth recurred, and associated with its recurrence was the development of sarcomatous nodules containing pigment all over the body, and also of flattened pigmented areas. The man died within three months of the operation with general sarcomatosis.

Dr. F. X. Dercum has kindly given me the notes of the following case:

CASE 25.—*Mid-Scapular Mole Undergoing Malignant Degeneration; Death from Sarcoma of the Brain.*

W. B. S., a man, aged 57, for many years had a mole between the scapulæ. He was admitted to the Jefferson Hospital Nov. 25, 1902, with symptoms of a brain tumor. Some time before his admission this mole had begun to grow and was removed by his family physician. In July, 1902, while driving, he was suddenly seized with an epileptic attack. This was followed by a number of others, and he died Nov. 30, 1902, five days after his admission to the hospital.

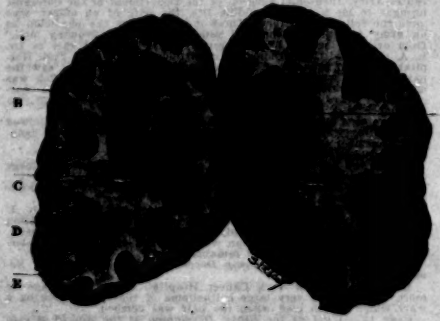

Fig. 5.—Cerebrum, coronal section, anterior aspect: superior parietal lobule and posterior part of temporal lobe. Three-fifths natural size. Jefferson Medical College Hospital laboratories. No. 2288. Melanotic sarcoma of brain, secondary to primary growth in skin of back. A—Secondary nodule showing considerable hemorrhage in the interior of the new growth and a scanty irregularly distributed but narrow band of peripheral hemorrhage. B— Similar mass in opposite hemisphere. The hemorrhage in this area is around the growth which is considerably compressed. C—Blood-stained zone surrounding mass; it will be observed that the peripheral blood-tinging of the white matter is more marked on this side than the other, due to the more abundant hemorrhage and its peripheral distribution. D and E are also areas of hemorrhage containing varying quantities of neoplastic tissue; the latter, which in the absence of extravasated blood, is grayish-brown or nearly black, is further obscured by hemoglobin inhibition.

The postmortem was made by Dr. W. M. L. Coplin, and Fig. 5 shows the sarcoma of the brain.

DISCUSSION.

DR. WILLIAM L. RODMAN, Philadelphia—My experience is very much like that of Dr. Keen, as I have seen more warts undergo epitheliomatous transformation than I have pigmented moles undergo sarcomatous change. I distinctly remember three well-marked instances of warts undergoing epitheliomatous change late in life. The first case was that of an elderly physician, who had a wart situated on the temple, about the size of a hazelnut, which had been there for many years. He believed it was due to the continual pressure of his hatband. It had ulcerated. I made the diagnosis of epithelioma, removed the wart, cauterized the base and the patient made a good recovery. There has been no recurrence. The second case occurred in a man 60 years of age, who had a wart on the dorsum of the left hand for many years, and when I saw him in 1896 it was about the size of a small walnut. I excised it, feeling sure that it had undergone epitheliomatous change. Parts of the growth were examined microscopically and the clinical diagnosis confirmed. The case is perfectly well at the present time. The third case was a most unfortunate one. The patient, a man, had an ulcer on the back of the hand which began as a wart and had been there for many years. On examination I found well-marked enlargement of the glands in the axilla, and when I cut into the axilla I found a mass almost as large as my fist, to which the axillary vein was adherent. I excised four or five inches of the vein along with the mass. He made a good operative recovery, but died about a year afterward from metastases. I have memory of a case occurring about ten years ago in the practice of Dr. Vance of Louisville and which was reported by him to the Louisville Surgical Society. The patient was a very prominent woman, age about 55, who had a pigmented mole on the inner aspect of the knee, which had undergone sarcomatous change. Dr. Vance operated; recurrence took place in the groin and pelvis, and death soon followed. It was undoubtedly melanotic sarcoma.

DR. GUSTAV FÜTTERER, Chicago—Dr. Keen has shown that mechanical factors will produce certain changes in warts and moles which will make them malignant, and I have specimens here by which I can demonstrate the sudden occurrence of such changes in epithelial cells of the stomach. These metaplasias I have produced in the stomach of rabbits by experiment. Columnar cells of the glands of the stomach have been completely transformed and perfect pegs of squamous epithelial cells have been formed which have grown down into the deeper tissues. They push everything aside and invade even the muscularis. In a late case that I have observed they even penetrated the wall of the stomach itself and had grown toward the liver. The literature of metaplasia shows a close relation between this and carcinoma. Such metaplasia with malignancy following has occurred in different organs and, as a rule, it does not exist very long before it becomes malignant. Mechanical factors play an important part in this change, but while there are other factors at work, we may in a general way say that the mechanical factors are the principal cause. In animals which have no teeth we find physiologic metaplasia in the stomach, because it is here where the hard food is broken up.

DR. ROBERT F. WEIR, New York—I think we should adopt the rule as to moles which is accepted in connection with tumors, both benign and malignant, which is that they should be removed early. Every mole and wart had better be destroyed at once, but while this is an easy thing to say to patients, it is not so easy to get their permission. They dread the knife, but if you can tell them that there will be only a small scar, and that effected without cutting, you may get their consent. I only wish to mention the fact that for many years and in many cases I have used the glacial monochloracetic acid with good results. I apply it until the mole becomes whitish and this is followed by a slight reaction. In a week the dry scab comes off and in a short time the wound heals. Occasionally one or two repetitions may be required. This is a very thorough way of removing moles and warts, as the scar is small in size, pliable and of a nearly normal color.

DR. ERNEST LAPLACE, Philadelphia—These cases always occur in tissues of diminished resistance. A great many people have warts and moles who never have cancers, but those who are for other causes prone to the development of cancer are very likely to develop cancer in warts and moles and other tissues of diminished resistance. Old age is also a prominent predisposing factor, and while the warning of Dr. Keen should be heeded and all warts and moles should be removed before any malignant tendency has manifested itself, in order to make assurance doubly sure, yet this will often be found to be impossible. As to the production of carcinoma and sarcoma, I

believe various points of pathology have a bearing on this. Warts proper are of a true epitheliomatous type, for they consist of a hypertrophy of the papillary layer of the skin. These become true epitheliomata; there are, however, moles with enlarged and proliferating blood vessels which later become sarcomata. Hence, it is safest to remove all such excrescences when it becomes apparent that they are growing.

DR. A. D. BEVAN, Chicago—A possibility that has impressed itself on me from an experience with a limited number of these cases is the danger of rapid general involvement apparently from infection of the wound in the operation itself. I have removed melanotic sarcoma and the operation has been followed almost immediately by general involvement. Before I remove another of these growths I shall make it absolutely dry with the Pacquelin cautery. Every pigmented mole is histologically a malignant growth, and it takes but a little stimulation to change a clinical benign into a clinical malignant growth. Recently my assistants and myself were discussing this matter, all having decided to have moles removed from our backs. We found that each had a great many to be removed and consequently we changed our minds. Doubtless one-half of this audience have moles and those who have a great many could not think of removing them all. At the earliest possible indication of any irritation a mole should be destroyed with the Pacquelin cautery and then widely extirpated with the knife.

DR. W. W. KEEN—A mole is a match which sets fire to a great conflagration. Dr. Bevan's point is a good one. One can not make any absolute rule, as there are so many exceptions. I remember the case of a man who had from 50 to 100 moles, but one would not think of advising extirpation of all of them, if, indeed, any in such a case. I do not recall any instance of malignant degeneration in a case having so many moles.

PATHOLOGIC IRREGULARITIES.*

M. H. FLETCHER, D.D.S., M.D.
CINCINNATI.

ENUNCIATION.

The terms orthodontia and irregularities of the teeth conventionally carry with them the idea of irregular teeth in children and youth, connected with their treatment for correction. The causes are usually hereditary, but may be acquired. One could quote from writers from Etruscan days down to the present time and give the opinion of more than fifty authors, but their definitions of the etiology would most likely each differ somewhat from the other.

There have been handed down to us such explanations as "She inherited large teeth from one parent and small jaws from the other," or "His baby teeth were not extracted soon enough," or "Were taken out too soon." "Lack of absorption of the roots of the temporary teeth, while the growth of the permanent set is rapid," etc. One author thinks "the development of the hind end of the jaw does not keep pace with the absorption of the front end."

Then there are a lot of platitudes, such as "The teeth are too large for the jaw," "Too many teeth for size of the jaws," "Projecting jaws," "Sleeping with the mouth open," "Enlarged tonsils," "Want of room in the jaws," etc., etc.

In summarizing the above opinions it would seem that symptoms, or results, have been given in place of the real cause. Nevertheless, this is only another opinion.

ETIOLOGY.

Guilford divides the causes into hereditary and acquired, and Colyer into general and local.

"Talbot has shown that irregularities of the teeth were often due to two factors. Those of constitutional origin, which develop with the osseous system, and those of local origin." "The deformity always commences at the sixth year and is completed at the twelfth." "Forward movement of the posterior teeth produce the same result as arrest of development of the maxillæ. It was also shown that the vault is not contracted by mouth breathing. That contracted dental arches are as common among low as in high vaults and that they simply appear high because of the contraction. That mouth breathing due to hypertrophy of the nasal bones and mucous membrane, deformities of the nasal bones, adenoids or any pathologic condition producing stenosis does not cause contracted jaws, but all these conditions are due to neuroses of development."

EFFECTS.

The ill effects of these deformities must be apparent to such an audience as this with a mere suggestion. The degree and extent of the ill effects have not only to do with the unsightliness of the patient, but Talbot has done much to prove the connection of extreme cases with idiocy and crime.

Aside from uncomeliness, irregularities undoubtedly interfere with the proper care of the teeth and gums, and in this manner are a large factor in fostering diseases of the alveolar process, including the surrounding tissues; many times involving other parts of the jaws, the nose, eyes and ears, often inducing chronic disorders of digestion and fostering the causes of zymotic diseases. Neuroses of many varieties may have their origin in diseased alveolar process and teeth.

TREATMENT.

As to treatment, our best men differ in their procedures. Cleft palate and hare lip are of course dealt with from a surgical standpoint. Prognathic cases, showing atavistic tendencies, with diastems behind the canines, are sometimes treated surgically by removal of bone from these spaces, but such treatment is rare. In the treatment of lesser deformities mechanics are almost entirely relied on. Some operators resort to the removal of one or more teeth in order to accomplish the desired end. On the other hand, Dr. Angle says: "The best balance, the best harmony, the best proportions of the mouth in its relation to the other features, require in all cases that there shall be the full complement of teeth, and that each tooth shall be made to occupy its normal position. And if we accomplish this we shall have satisfied the demands of art, so far as they are concerned in the relation of the mouth to the rest of the face."

To restore the features to harmony and the teeth to perfect position and usefulness requires mechanical skill of the highest order, coupled with an esthetic sense and artistic eye.

PATHOLOGIC IRREGULARITIES.

Definition.—In contradistinction to the above, there is a class of irregularities not treated of in works on orthodontia, nor have they been considered under the head of dental orthopedics. In fact these cases seem in a way to be "the stones which the builders disallowed."

They are in many particulars the exact opposite of the others. 1. They do not appear until the age of mature years. 2. They are purely acquired. 3. They are entirely pathologic, in the sense that they are the result of disease, localized in the alveolar process. 4. They are only amenable to mechanical treatment by first removing the causes of the disease producing them.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. F. A. Bogue, Allée M. Steeves and M. L. Rhein.

Name.—In order to distinguish these from the previously described, the writer has called them pathologic irregularities.

Etiology.—To describe all the causes of pathologic irregularities would be to give a treatise on interstitial gingivitis, known also as pyorrhea alveolaris and Rigg's disease.

To make the matter plain from my standpoint it will, however, be necessary to briefly describe the anatomy, the pathology and the causes, with treatment other than mechanical.

Anatomy.—An intimate knowledge of the anatomy is of course necessary in order to comprehend the pathology, or to apply treatment intelligently. It is presumed this is understood.

Now, when we consider that a hard, unyielding substance like a tooth is not only supported and held in place by, but entirely dependent on, the thin, bony walls of the alveolar process, it is a marvel to realise what hard usage it withstands, and what enormous pressure and lateral strain it is continuously subjected to without displacement or injury. Let this bone become diseased, however, and ere long the teeth become tender and unusable, and vast numbers are finally lost without the least defect in the tooth itself.

In the last decade these diseases and their treatment have engaged the attention of the profession to a marked degree, much to its credit.

Terminology.—To Talbot is due the credit of having classified the various phases of this disease and described its different stages. He has given the name "interstitial gingivitis" to inflammation of the gums, alveolar process and peridental membrane. The term Riggs' disease and pyorrhea alveolaris were formerly applied to any or all the stages and conditions.

The term Riggs' disease is indefinite and is to-day obsolete. Pyorrhea alveolaris now indicates a flow of pus from the sockets about the roots of the tooth and is a terminal stage of inflammatory action. It is the result of previous inflammation known as interstitial gingivitis. Inflammatory action may continue, however, and exfoliation of the teeth result without pus infection. One termination of the inflammatory action is the tendency of the teeth to be expelled from their sockets, with the result that they become elongated, tilted to one side or pushed in or out of the normal arch.

To give a plan of arresting this process before it has gone too far and to replace the teeth into their normal position is the object of this paper.

Causes.—In order to arrest or eradicate a disease its causes must first be found and removed. Talbot says: "The local causes which produce interstitial gingivitis are an accumulation of tartar about the necks of the teeth, decayed teeth producing hypertrophy of the gums, unfinished fillings, gold crowns and bridge work, artificial dentures, rapid wedging of the teeth, collections of food and everything that will produce irritation of the gum margin, setting up a chronic inflammation or gingivitis. This in turn extends to the deeper tissues (the peridental membrane and alveolar process), where it becomes interstitial in character. The constitutional causes which act locally, producing interstitial gingivitis, are the toxic effects of mercury, lead, brass, uric and other acids, potassium iodid and other agencies acting in a similar manner, such as scurvy," etc.

He further says: "Autointoxication (meaning self-poisoning due to a faulty metabolism), is the great cause of interstitial gingivitis resulting in pyorrhea alveolaris."

In contradistinction to investigators who hold that the disease is often entirely systemic, the writer's opinion is that the disease must have a local cause, this cause producing a point of least resistance for the localization of systemic disorders, which general disorder or condition of autointoxication increases the local symptoms.

There seems no reason to believe that drug poisoning or other morbid systemic conditions can produce interstitial gingivitis without a lesion of the gum pre-exists. This lesion may be the merest break in the mucous membrane, caused by the smallest deposit of calcareous material, this local mechanical irritation being one requisite of the etiologic moment. On the other hand, there may frequently be found in gingivitis the systemic disorders accompanying cases of sapremia and septicemia.

The continual pressure against the gum tissue of rough, irritating calcareous deposits, which continuously increase in quantity and insinuate themselves deeper and deeper beneath the soft tissues, are accompanied with all the products of repair by granulation or second intention, and may be accompanied by surgical fever. These deposits may be found wherever saliva can penetrate. It has never been my privilege to see deposits of tartar about the necks of teeth that were innoxious, but they are always irritating to some degree, and usually greatly so. This condition may exist in all stages, from that of being imperceptible to the naked eye up to a complete state of pyemia, and may result in death.

On the other hand, there is abundant evidence to show that autointoxication, or a low state of health from any cause, greatly favors the progress of the disease, and with this state of affairs present a chronic pus-forming condition may soon be found about one or more of the teeth where the local exciting cause exists, but that autointoxication or other systemic disorders cause this disease, without local irritation, does not appeal to the writer's reason any more than to say that the same disorders cause inflammation of the pleura or conjunctiva without a local point of least resistance from local cause.

Degeneracy or faulty development may bring the etiologic moment at a very early stage of the local irritation. This might be almost coincident with the initial lesion, whereas in normal and healthy individuals the pyorrheal stage, even in its mildest form, may be deferred indefinitely or never appear even where calcareous deposits are excessive.

The fact that the tissues involved are transitory in nature does not seem an adequate factor in accounting for the disease, as suggested by Talbot, since they are as transitory in cases where the disease does not exist as where it does, and these tissues recover as readily as other structures which are not transitory.

There seems no question but that calcareous deposits about the teeth should be looked on as noxious foreign bodies and that the constant effort on the part of nature to extrude them, results in the progressive death of the surrounding tissues with the malposition of the teeth as one result. We find in this disease zones of granulation tissue with the result of destructive metabolism in the soft tissues and the creation of sequestra in the bone. This condition, however, is changed to constructive metabolism the moment the tartar, sequestra or other local irritants are removed.

The sinus in the pyorrheal stage of this disease is between the root and alveolar process, unless the lesion

be so deep in some place on the outside of the process that a gingival abscess is formed. In either event the alveolar process is continually bathed in pus, which results in its destruction. So long as the tartar is present as a foreign body the irritation is continuous and sequestra are formed which are a second source of irritation until they are removed or absorbed.

All these cases will heal by removal of the deposits and sequestra or by the loss of the affected teeth. The removal of the teeth invariably results in recovery, and a patient without teeth, either young or old, can not have the disease, regardless of transitory structures, degeneracy, heredity, drugs, environment or systemic disease. If lesions of the gums or maxillary bones appear where there are no teeth, it is not interstitial gingivitis, but something else.

Of all the causes mentioned the writer believes that 90 per cent. of cases of interstitial gingivitis are due to hard deposits about the teeth.

Treatment.—As to treatment, I believe that all authorities are agreed that absolute removal of all deposits about the necks and roots of teeth is the first requisite to recovery. In my own hands this requires from three to ten sittings, approximately a week apart, washing out the socket each time with hypodermic syringe, using 50 per cent. alcohol, saturated with boracic acid, painting the gums with iodin or iodid of zinc. They must then have constant care thereafter from one to six times a year in order to preserve a good state of health, or a "healthy stump," as surgeons say. Dr. W. A. Price of Cleveland has had good results by local treatment with *x*-ray after having removed the deposits.

As to instruments, each one capable of doing the work will adopt his own methods and choose his own instruments and remedies for local treatment. If the diagnosis has been correctly made the practitioner will be the judge as to whether systemic interference be necessary. If constitutional treatment is called for, abstinence from excess of nitrogenous and acid foods, with the necessity of ten to twelve glasses of pure water daily and the addition of lithia for a period is usually indicated.

Much can be learned about the condition of the system by examination and analysis of the saliva and urine; neither should be more than slightly acid and both should be normal in other particulars.

Talbot says: "In the severer types of disease, such as tuberculosis, asthma, chronic indigestion, kidney disease, etc., very little curative effect is to be expected from treatment. Constitutional treatment is tentative, since autointoxication will continue in most cases until death. The chief treatment of such cases will be removal of local irritation."

"The system excretes 40 ounces of water daily. If this amount be not taken into the system, or if it be not eliminated every 24 hours, autointoxication will follow. Every drop of water taken into the stomach enters the blood. It is one of the best purifiers which we possess. From five to seven pints of pure water should be taken each day to flush the blood and kidneys and thus cleanse the system."

Mechanical Treatment.—The causes having been determined and treatment carried well along, the malposition of the teeth should begin to have attention. This is usually begun before healing of the tissues is complete. The writer has had the most satisfactory results in these cases by straightening out their defects in the same manner that ordinary irregular teeth are treated. A description of the mechanical devices contrived and used for the purpose of regulating teeth would fill large volumes; yet in addition to all these the inventive powers of the operator are continuously called on in carrying these cases to satisfactory completion. In my own hands cumbersome regulating appliances have largely given way to a most simple plan, namely, that of a simple bow of heavy German silver wire on the outside of the dental arch, so adjusted that the teeth are drawn to it by the use of ligatures of German silver or platinum instead of silk or rubber. Torsion is produced by putting on a band to which a tube is soldered; in this tube is inserted a spring lever, the outer end of which is ligated to the bow. The use of the bow on the outside of the arch is one of the oldest devices known, but the manner of its handling is varied, being susceptible of a great variety of uses.

The resiliency of the heavy bow is such that its steady pull or push moves the teeth out or pushes them into line. Its resiliency can also be utilised to expand or contract the strongest arch. It has nearly done away with jack screws, coffin plates and many other intricate and annoying appliances where they were formerly used, and simplifies the treatment to a very great degree, and has done so in my hands for the past ten or more years.

This bow and its accessory appliances being entirely on the outside of the arch are much less annoying than appliances inside and are very much more effective. It will be found that pathologic irregularities yield to pressure more readily than in younger persons because of the partial loss of alveolar process; then there are no short, partly erupted teeth to be dealt with.

Regarding the imaginary difficulty of changing the shape of bones in mature adults, it may be said that live bone never becomes so old that it will not yield to continuous pressure, and teeth are more easily replaced into a former position than moved into a new one. Nevertheless, two of these cases here presented show where adjoining teeth have been brought together and occupy spaces where a tooth had been extracted or lost from disease, both in patients 50 years of age.

As to changing the shape of bones, Dr. M. H. Cryer says: "After the birth of the child muscular action and various forces have direct influence over the change of the bones, according to the following general laws: The normal application of forces in developing bone results in the normal development of the form of the bone. The abnormal application of forces under the same circumstances results in the development of an abnormal form. Abnormal applications of forces to bone in adult life will also change and modify the shape and character."

These pathologic cases, like the others, must be retained in their new position for a period of months, may be years, or until the bony arch has become thoroughly ossified again. This is usually done by ligating them with platinum ligature. Sometimes a heavier platinum wire is fitted to the lingual surfaces and ligated to the teeth with the light platinum. The German silver and platinum ligature is No. 25 B. & S. gauge.

In November, 1893, I presented one of these cases, giving this plan of treatment, and read a paper on the subject before the Cincinnati Odontological Society. Since that time I have treated several additional cases with most satisfactory results.

DISCUSSION.

DR. EUGENE S. TALBOT, Chicago—I appreciate highly the new term coined by Dr. Fletcher, "pathologic irregularities" of the teeth. It is an important and common condition and classified

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under this head defines the pathologic state. The tooth itself is to a great extent a foreign body in its relation to the alveolar process. The teeth, from want of antagonism, constantly move in the alveolar process due to interstitial gingivitis. This is particularly true of the old method of separating teeth by the rapid process for filling. An interstitial gingivitis was set up, because of this the teeth separated, and in later years a space resulted between the teeth. Because of the transitory nature of the alveolar process, an interstitial gingivitis always occurs after the second teeth have obtained their position. There is what may be called an inflammatory process continually going on in the alveolar process. This is the reason why a dental arch which has lost one or two teeth is always more or less out of order. This "inflammatory process" starts an absorption of the alveolar process because of which the teeth move in different directions. How far such an alveolar process can be restored is an open question. Some operations of Dr. Fletcher, beautifully performed, bring the teeth back into place and hold them in position until the alveolar process is restored to partial health. It is never restored to complete health. This last is a physical impossibility. Local treatment is all right, so far as it goes. It is very essential that the deposits should be removed; that the roots of the teeth should be thoroughly cleansed, but beside that there is considerable to be done in regard to draining the system. It is necessary to restore the excretory organs to their function. Auto-intoxication is the great determining factor, no matter what the systemic condition may be. The greatest cause of this is intestinal fermentation.

THE CRISIS AND TREATMENT OF PNEUMONIA.

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I doubt if any disease has occasioned us more anxiety and disappointment in its treatment than pneumonia, which in a measure is due to the conflicting etiologic views, as well as to conflicting lines of treatment. It is not my purpose or intention to discuss the etiologic factors farther than it is necessary to establish my views from a therapeutic standpoint.

No matter what line of treatment is applied, the increasing mortality has unsettled our minds to such an extent that we often wish we had adopted some other course. The unprecedented mortality of the present visitation of pneumonia recorded from so many districts of the United States persuades me to offer a line of treatment that has given me most gratifying results.

It is evident we have become resigned to the expectant line of treatment, anxiously awaiting the discovery of an antitoxin to cure pneumonia, or a serum that will immunize the public. The earlier we accept the situation and settle down to rational medicine, discarding those ridiculous theories of its contagion, transmission, predisposition and its questionable etiology, the better off we will be. We should lend such efforts as conditions will permit in advising our people to observe such prophylactic measures that experience has taught us is the direct cause of pneumonia, and, above all, correct the false impression that is fast becoming a belief—that we are powerless to manage pneumonia. To be sure we can not save all cases of pneumonia, and the same holds good in any disease, but this does not justify us in throwing up our hands and crying out that little can be accomplished, as we have no specific to apply.

The record of the following case will better demonstrate my method of treating pneumonia than any formal introduction. The details and indications as I apply this method of treatment will be found under the head of conclusions.

History.—J. M. aged 21 single; Mexican laborer; was first taken ill Feb. 13, 1904; admitted to hospital February 14 at 11:40 a. m. The alleged cause of disability was exposure; diagnosis pneumonia right side lower lobe.

Examination.—Axillary temperature 104.2, pulse 136, easily compressible; respiration, 38 somewhat labored; profuse prune-juice expectoration, containing an unusual quantity of bright red blood; severe pain in right chest extending to right shoulder posterially; vomited bile and some blood; very nervous with muttering delirium.

Treatment.—Sixty grains of sulphate of quinin was administered at 12:30 noon as an initial dose. Thirty grains more were given at 1:30 p. m. At 3 p. m. fifteen grains more of quinin were given, which combined with 10 minims tincture of chlorid of iron, with instructions to administer ten grains of quinin every four hours and to give 10 minims tincture of iron alternately.

February 15, 7 a. m., temperature, 103; pulse, 100; respiration, 28. Pulse strong; pain continues more severe in region of right shoulder; no vomiting, stomach settled; prune-juice expectoration very much lessened and contains no blood. Quinin discontinued until further orders. Eight p. m., temperature, 102; pulse, 98; respiration, 28. Complains of but little pain; inclined to sleep; iron continued every four hours.

February 16, 8 a. m., temperature, 104; pulse, 92; respiration, 28; sputum nearly clear; pain shifted to region of right nipple; forty-five grains of quinin administered at one dose; iron increased five minims; sputum clear. Eight p. m., temperature, 102.4, with slight muttering delirium; sputum slightly rusty; pulse, 98; respiration, 30.

February 17, 8 a. m., temperature, 104, with invasion of left lung lower lobe; pulse, 112; respiration, 34; increased rusty sputum; pulse good and strong. Forty-five grains of quinin with 10 grains of salol given at one dose, with orders to give him all the drinking water that he desired.

February 18, 8 a. m., temperature, 100; pulse, 96; respiration, 28; slight epistaxis during night; cough annoying; sputum clear and pain in side and shoulder considerably relieved.

February 19, 8 a. m., temperature, 102; pulse, 100; respiration, 30, but of a better character. Thirty-five grains of quinin ordered at one dose, ten grains to be alternated with two grains of guaiacol every four hours. Eight p. m., temperature, 100; pulse, 100; respiration, 30; pain in right side and shoulder disappeared; slight pain in left side just below the nipple.

February 20, 8 a. m., temperature, 100; pulse, 98; respiration, 28; twenty-five grains of quinin administered at 9 a. m.; guaiacol discontinued; iron increased to 20 minims every four hours and 5 grains of quinin alternating.

February 21, 8 a. m., temperature, 100; pulse, 98; respiration, 26; rational; sputum clear; rested fairly well during night; iron and quinin continued.

February 22, 8 a. m., temperature, 99; pulse, 82; respiration 24; quinin and iron continued; slept well; very little sputum, but clear; no pain.

February 23, 8 a. m., temperature subnormal; respiration, 18; pulse, 72, and feels well.

February 24, 8 a. m., temperature subnormal; pulse, 72; respiration, 18; feeling well. Two drachms of the elixir of iron, quinin and strychnia was ordered every four hours. Patient discharged February 30.

The most important feature in the citation of this case, which I have found a frequent, if not an invariable one, is the lack of any evidence whatsoever of that dreaded so-called crisis, which I look on as a misnomer.

The question may be asked if it is advisable to administer quinin in large doses in all cases, which can only be answered that quinin, as other remedies, may have its contraindications; however, up to the present time, I do not recall a case wherein I have hesitated to administer from 40 to 60 grains of quinin as the initial

dose, following this in one or two hours with 25 to 30 grains more, even in those cases where cardiac weakness is threatened by the usual symptoms of dyspnea, high fever, soft and rapid pulse and cyanotic expression, where alcohol, nitroglycerin, digitalis and strychnin, that I formerly employed, and which regularly failed, as it will do in every case of this alarming condition.

The pleasure and astonishment experienced in several cases where I have applied this apparently aggressive course of treatment, can better be understood by those who have had larger experience than I can possibly describe. The depressing influence described in our textbooks that is occasioned by the administration of large doses of quinin has never been noticed in a single instance, nor have I observed the slightest evidence of cinchonism prior to beginning resolution.

The peculiar effects of quinin are well demonstrated in the following case:

O. C., Mexican, age 33, occupation miner, on the fourth day of his convalescing period was taken with a slight rigor, followed by a temperature of 103, with panting respiration, rapid and weak pulse and pain in the affected side. Twenty-five grains of quinin were administered at 6 p. m. of the same evening, and 15 minims of tincture of iron ordered every three hours, with the results of a normal temperature on the following morning. Pulse, 88, good and strong; respiration, 26, and without pain, which condition I consider very satisfactory. I ordered quinin, grs. 5, every four hours as a prophylactic, with the result that at 11:15, one hour and fifteen minutes after the first five-grain dose of quinin had been given, he complained of pronounced symptoms of cinchonism. The peculiarity is that at no time prior to this did he exhibit the slightest signs of cinchonism, although he had taken enormous and repeated doses of quinin during his early pneumonic invasion.

As this is the third or fourth case in a short time that has shown marked symptoms of a relapse, I would advise a continuation of quinin in five grain doses every six hours during the early period of resolution, or until slight evidence of cinchonism is manifested.

I believe if our efforts were directed to the treatment of pneumonia to the same extent that its etiology and bacteriology is studied our efforts, to say the least, would be the means of accomplishing greater good than we have in the past. I am satisfied that our primary efforts in the management of pneumonia should be directed in applying measures that will fortify the right heart for the time of its serious engagement, namely, the crisis.

In reviewing the literature at my command on this subject I have failed to note the slightest suggestion to this, the most important part of our management of the treatment of pneumonia.

That Friedlander's discovery of the pneumococcus in a pneumonia case has been most unfortunate for us, and I firmly believe it has diverted our line of treatment that should be based on clinical facts and rational etiology. The expectant plan of combating disease should never be accepted as rational or logical medicine as long as those conditions are followed by serious lesions. The expectant and symptomatic consideration of functional disturbances is generally successful, as those conditions are seldom followed by serious or pathologic changes. I believe that the earlier we begin our treatment with a view of fortifying the heart and gradually applying those measures that will encourage peripheral circulation the more successful we will be in treating pneumonia.

The bacteriologist is leading us a rapid pace in chasing the special cause of disease as well as advocating the lines that should be pursued in destroying the function and life of the divers germs in order that we may cure our patients.

The theory of germ invasion is interesting and in time will no doubt become a channel that will be the means of practical benefit to us as practitioners of medicine, providing the physician has the faculty to grasp the situation, and differentiate what variety of germs have fastened their grasp on his patient, in order to apply the proper antitoxin.

In view of the fact that we are unable to understand the various organic changes that are produced by so many microbic invasions, I am a little optimistic in accepting the precedent of treating my cases upon those theoretic views that are based on transient principles.

In no infectious fever is the arterial tension so reduced as it is in pneumonia just prior to and during the crisis, due to the mechanical and chemical changes principally in the heart and blood for which cardiac dilatation and septic conditions are responsible.

The responsibility in the management of pneumonia, to my mind, is as great as in any disease we are called on to care for, as the individual suggestions from a symptomatic standpoint has its daily indication for attention that no writer can incorporate in any one article.

The term crisis in pneumonia is objectionable on account of the serious lesions that are responsible for this condition which is so little understood by the average practitioner, and in a general way is responsible for our continued practice of administering stimulants as a last resort in alarming cardio-pneumonic symptoms, that all experienced physicians have time and again witnessed shortly before dissolution.

Pneumonic cardiectasis better describes the condition we have to contend with and attracts our attention more specifically to the over-distended and disabled heart, that is handicapped by pneumonic intoxication of the blood it is to distribute. I am convinced that the above plan of treatment has retarded the pneumonic process and exerted a pronounced influence in lessening those crisis symptoms and of a material aid in resolution.

I consider the use of stimulants, alcohol, nitroglycerin and strychnia during the crisis of pneumonia not only contraindicated, but a most dangerous remedy to apply, as it increases the mechanical conditions that are distressing our patients. Our attempt to base our treatment of pneumonia on the present etiologic findings is as rational as it would be for us to treat the innumerable conditons in which this diplococcus is found as cases of pneumonia. The association of the pneumococcus in so many pathologic conditions is probably due to the same tissue change that is found in pneumonia, and which furnishes a favorable propagating bed for its development.

Hypodermoclysis and general hydrotherapy may be advantageously used in the treatment of pneumonia with the same success they are used in other septic and shock conditions. The success of hydrotherapy will never be appreciated in this, as well as many other inflammatory and exanthematous diseases, on account of its impractical use and the prejudice that is equally shared by the profession and the public in general.

I do not wish to appear dogmatic or to detract from the benefit my colleagues have secured in the use of digitalis, veratrum viride, aconite and a host of other drugs, as I fully appreciate the fact that they all have their periods of usefulness from a symptomologic stand-

point, but by no means have they exerted, in my hands, any satisfactory results.

Complications are very much in evidence in the majority of cases in this vicinity, especially those having an alcoholic origin or where there has been lack of proper food and clothing.

In justice to my remarks, I am frank to admit that my experience leads me to believe that the so-called pneumococcus may be associated with the etiologic factors of pneumonia, but it is not its specific cause.

CONCLUSIONS.

I do not offer this plan of treatment as a specific by any means, but know it has materially reduced my former mortality.

The first attention rendered the ordinary cases that are admitted to the hospital is a warm bath and a saline cathartic. The indications governing the administration of quinin and iron are as follows: When the temperature has reached 105 or over, 60 grains of quinin sulphate, to be administered as the initial dose, followed in one hour by one-half this amount, or 30 grains, and the following hour by one-half the latter dose, or 15 grains, at which time I begin the administration of tincture of iron in doses ranging from 7 to 15 mins., depending on the date of the disease and the condition of the heart. If I see the patient on the first or second day of his attack, I usually begin with about 10 mins. of tincture of iron, increasing it one or two drops, or even more, each day up to the sixth or seventh day unless the pulse remains full and strong.

I do not believe in giving quinin in small and repeated doses during the active stages, but follow the plan as given in the reported case. When the temperature is 104 or over I give 50 grains of sulphate of quinin and follow the same course as above stated. When the temperature is 103 I give from 30 to 40 grains, following the same course as above stated.

During the convalescence I have found that one, or the combination of the following medicines, of value, namely, elixir of iron, quinin and strychnin, guaiacol and cod-liver oil. But what has served me best of all at this time, is thorough ventilation and sunlight, with plenty of milk, eggs and beefsteak.

NOTE (April 26, 1904).—The above paper has been held since March 26 on account of the increasing number of pneumonia cases, which has added material evidence in the success of my treatment, as the last twenty cases that have been treated by my assistants and myself have been followed by twenty successive recoveries.

MESENTERIC EMBOLISM AND THROMBOSIS.

A STUDY OF TWO HUNDRED AND FOURTEEN CASES.

JAMES MARSH JACKSON, M.D.
Out-Patient Physician to the Massachusetts General Hospital.
CHARLES ALLEN PORTER, M.D.
Assistant Surgeon to the Massachusetts General Hospital.
WILLIAM CARTER QUINBY, M.D.
BOSTON.

(*Continued from page 29.*)

OPERATION. DR. F. B. HARRINGTON. ½ PER CENT. COCAIN.

Six-inch incision along right rectus. Peritoneum dark and free fluid present. Coils of small intestine found flaccid, black and foul smelling. Gangrene found to involve cecum and ascending colon to hepatic flexure, besides all of the ileum. Continuing from gangrenous areas, the intestine changed gradually to almost normal color. At this stage patient became restless and primary ether was given, also for very poor condition, strychnia, 1/20 gr., with no effect. Small perforation found in small intestine, through which much dark venous blood was oozing. Perforation tied with silk. Purse-string stitch of silk put in small intestine and Mixter tube inserted. Small amount of gas escaped, but no intestinal contents. Patient collapsed and died.

AUTOPSY. DR. J. H. WRIGHT.

Sept. 20, 1902. Obturating thrombus of superior mesenteric artery, due to endarteritis. Hemorrhagic infarct of small intestine, and of portion of large intestine. Arteriosclerosis of aorta. Chronic disseminated tuberculosis (possibly syphilis) of the lungs. Chronic interstitial orchitis. Leiomyomata of kidney. Heart, not remarkable. Lungs, disseminated nodules of tuberculosis. Aorta, arch and thoracic portions normal, abdominal portion, intima contains several gray, firm plaques and a few scar-like depressions. Abdominal aorta and common iliacs of small caliber. At beginning of superior mesenteric artery is a 2 cm. red, fleshy thrombus, firmly adherent to intima. The mass is propagated as a rather black, soft, red clot, a short distance into artery and branches. Infarct of intestines from beginning of ileum to hepatic flexure; mucosa, black red.

CASE 19 (DR. R. B. Greenough).—D. F., man, 56 years, carpenter. Entered Massachusetts General Hospital December 8, 1903.

Family History.—Wife left husband because he was such a heavy drinker, but says that he has not drank to excess for past five years. Has a son and daughter in good health.

Past History.—Always has been rugged and strong. Denies venereal trouble. Wife says he had a paralytic stroke two months ago. He says he has been told by physicians that he had heart and kidney disease.

Present Illness.—Says he has lost 21 pounds since January, 1903, when his weight was 156 pounds; loss has been steady. Also that two months ago began to be constipated, with abdominal pain, not localized, but fairly constant. That two days ago he began to vomit and have acute pain in belly; that vomiting has been constant since then, without any bowel movement at all. Has had no tapelike movements at any time and no signs of gall-bladder trouble. Has never had bloody stools. During last two days has felt badly all over. Son says father was well as usual until yesterday forenoon, when the symptoms above mentioned set in. Patient describes vomitus as being "watery."

Physical Examination.—Fairly well developed, spare old man, in poor mental condition. Rather pale. Tongue very red, suggesting prolonged vomiting of late. Heart negative, except for soft systolic murmur in second left interspace, suggesting roughening of the aortic arch. Lungs not examined posteriorly. Over whole chest anteriorly are heard numerous musical rales, with slight hyperresonance and prolonged expiration. Breathing is labored, but not shallow. Liver and spleen not remarkable by percussion. Abdomen full, tense, tympanitic, except in flanks, where it is dull. Tenderness is general. Rectal examination negative. Pulse 100, temperature 98.4 by rectum, whites 6,000, December 18, 4 p. m.

OPERATION. DR. R. B. GREENOUGH. ETHER.

December 18. Eight-inch median incision. Peritoneum opened, allowing escape of a little bloody serum, and exposing a large amount of gangrenous small gut. Rapid examination failed to show any strangulation, due to hernia or bands, and a diagnosis of mesenteric thrombosis was made. As the gut seemed absolutely dead, it was thought best to resect. Small intestine tied off by plain catgut just above cecum, this being a little below line of demarcation. Gut quickly cut from mesenteric attachment, up to line of demarcation, a distance of 12½ feet and tied and cut as below. Almost no bleeding from mesenteric stump. Mixter tube inserted in upper portion. Cavity loosely packed with gauze. Dry dressing and swathe. Stomach washed, removing considerable foul matter. Infused intravenously with 1½ pints of salt solution. Crile breeches put on. Patient sent to ward in fair condition, with pulse of excellent quality. Patient's pulse remained good, but respiration feeble. Once he recovered consciousness enough to recog-

nise his wife, but soon relapsed, and respiration becoming weaker, he died at 2.50 a. m. No autopsy.

Pathologic Report.—A piece of small intestine, dark blue in color. The veins of the mesentery were filled with recent thrombi. Hemorrhagic infarction. W. F. Whitney.

CASE 20 (Dr. R. B. Greenough).—A. M. S., woman, 37 years, entered the Massachusetts General Hospital Oct. 11, 1902, with the diagnosis of gallstone colic.

Past History.—Six years ago had an attack of acute abdominal pain lasting three or four days and relieved finally by morphia. Vomiting and chill, but no jaundice. No clay-colored stools; no dark urine.

Present Illness.—Three days before entrance, sudden chill and vomiting. The latter has persisted. Pain was present, referred to the epigastrium and back. It was dull, but occasionally spasmodic. Urine smoky. Stools loose, otherwise normal. No jaundice. Vomiting dependent on character of the food taken; contained no blood.

Physical Examination.—Temperature 100.6, pulse 132, respiration 40, leucocytosis 21,000. Some rigidity and dullness in right hypochondrium. No mass nor any tenderness. Heart sounds normal. Vaginal examination negative. Urine dark, acid, specific gravity 1,026, trace of albumin, sugar present, sediment, numerous granular and epithelial casts. Small round cells. Rarely a blood globule, much fat, free and on casts and cells. Was put to bed, but in middle of night woman showed a marked change for the worse. Pulse 140 to 150, respiration 40. Marked distension of the abdomen, with shifting dullness on right. About a quart of blood was passed as the result of an enema.

OPERATION. DR. R. B. GREENOUGH.

Bloody fluid, free in cavity. Small intestine very dark throughout. Several reddish-blue spots on cecum and ascending colon. Nothing else was discovered. The patient died immediately after the operation.

AUTOPSY. DR. J. H. WRIGHT.

Polypous endocarditis of mitral valve. Embolism and thrombosis of superior mesenteric artery, with partial infarction and gangrene of cecum and ascending colon. Incipient infarct of small intestine. Multiple infarcts of spleen and kidney. Early pregnancy. Streptococcus septicemia. In the peritoneal cavity about 100 c.c. of thin dark red fluid. On the serous surface of the cecum is an irregular dirty yellowish necrotic-looking patch apparently representing gangrene of the wall of the gut. This patch is 2 or 3 cm. in diameter. On the serous surface of the ascending colon another larger similar patch of gangrene. The small intestine, throughout a large portion of its length, is generally of a dull reddish-gray color, as from the presence of a reddish fluid within. At one or two points fibrinous shreds are present in the peritoneal cavity. There is no generalized exudate on the surface of the intestines. The aorta was opened from behind and in the superior mesenteric artery a reddish-gray mass 3 or 4 cm. long is found occluding this vessel. Prolongations of this occluding mass extend a short distance into the large branches. There is no hemorrhage into the mesentery of the small intestine. Dissection of the intestines shows considerable amounts of a foul dark-brown opaque fluid contained in them. The mucous membrane of the cecum and the ascending colon, over a large proportion of their extent, is dirty brownish in color, softened, more or less disintegrated and necrotic. The mucous membrane of the greater part of the small intestine, from the ileocecal valve upward, is more or less reddish-brown in color and in places is emphysematous in appearance. Multiple infarcts are found in the spleen and kidney. Thrombus in renal artery. Polypous endocarditis of the mitral valve.

Bacteriologic Report.—Cultures on blood serum from heart, liver and spleen show streptococci.

CASE 21 (Dr. E. A. Codman).—C. S., man, 68 years, jail officer, entered Massachusetts General Hospital June 26, 1901, 11 a. m.

Past History.—Last winter had a loss of power in the limbs and wasting of muscles. Doctor called it poliomyelitis of unknown origin. He recovered from this, except for right thumb.

Present Illness.—Three weeks ago he began to have abdominal pain and an occasional attack of vomiting. Pain was referred to the stomach. Last Saturday the pain became more severe, and he called in his physician who found tenderness about the navel, and pain referred to right inguinal region and hypogastrium. Temperature normal. Very little distension, but some tympanites. No constipation. Vomiting for past ten days has been more frequent. This morning sent to Massachusetts General Hospital for very severe abdominal pain.

Physical Examination.—Rather poorly developed and nourished man. Lungs and heart negative. Arteries thickened. Pulse rapid and of small volume. Abdomen somewhat distended and tender, the greatest tenderness being just to right of umbilicus, along rectus. Some dullness in flanks. Patient looks sick. Urine shows no blood. Temperature 101.5, pulse 110, respiration 40.

OPERATION. DR. E. A. CODMAN.

Median incision, umbilicus to pubes. On reaching the peritoneum, it was seen to be dark, and on opening it a quantity of blood-stained fluid gushed out. Just to the right of the incision a long piece of dark-red, much thickened intestine was seen. This was grasped and drawn out. About five feet of it was discolored, and the mesentery was thickened and hard throughout, showing what was probably obstruction in the superior mesenteric artery. Small intestine pulled out, until healthy gut was met with on each end. Tied off and clamped. On section of mesentery many vessels were found filled with clots. Ends of intestine fastened in lower part of wound. Upper part closed with sutures. In ward, under stimulation, condition improved somewhat.

June 27. Condition grew poorer steadily through the night in spite of stimulation. Did not vomit, but had a great deal of pain. Somewhat relieved by morphia. Died at 11:20 a. m. No autopsy.

Bacteriologic Report.—A few unknown bacilli.

Pathologic Report.—Specimen, about 5½ feet small intestine, center foot of it dark. Hemorrhages scattered through the rest of it. Mesentery very much thickened at gangrenous part. Veins filled with loose clot. Arteries empty.

CASE 21 (Dr. J. G. Mumford).—C. C., 19 years, plumber's boy, entered Massachusetts General Hospital May 16, 1902.

Family History.—All healthy.

Past History.—Pneumonia at 4, otherwise well. Habits, considerable tobacco, no alcohol.

Present Illness.—Eight days ago complained of cold in head and stopping up of nose, also had a little sore throat. Six days ago face began to swell, and region of left malar bone became discolored and tender. The swelling rapidly increased, so that his eye became closed. A few days ago, on blowing nose, had quite a discharge of material, looking something like dark, clotted blood. Discharge continued during yesterday and to-day. It is mucopurulent. Sleeps most of the time. Frontal headache to-day and yesterday. No chills or sweats. This morning complained of cramps in the belly, which are now quite severe. No diarrhea.

Physical Examination.—Temperature 101.2, pulse 10, respiration 30. Well developed and nourished, face slightly flushed and apathetic. Inspissated mucus on lips and teeth. Pupils equal and react. Teeth good. Tongue red and dry, also throat. Right tonsil negative, left mucous membrane is reddened. Inferior turbinate swollen. No swelling of face. Slight tenderness over upper portion of superior maxilla. Very slight tenderness over left mastoid. Lungs negative. Heart, apex, fifth space, three inches from middle line dullness not enlarged. Sounds regular and of good quality. Pulmonic second sound accentuated. Systolic murmur loudest at apex, somewhat transmitted to axilla. Pulse regular, small volume, fair tension. Abdomen full, firm, somewhat more resistant on right than on left, no tenderness; dullness in right flank extending almost as far up as the umbilicus, over an area about four inches wide and six inches long. Slight dullness in extreme left flank, which changes with change of position. Liver dullness from sixth rib in nipple line to costal margin. Spleen negative. No edema of extremities. Blood,

hemoglobin 90 per cent., whites 31,000, iodophilia positive; no Widal reaction. Urine, high, acid, 1,034, albumin a trace, sugar absent, chlorids diminished, sediment, few normal blood globules, some leucocytes and squamous cells, no diazo reaction.

May 17. Pulse of better quality and patient does not look so poorly. Some relief of pain in bowels by stupes. Enema with fair result. Seen by Dr Goodale, who finds a septic condition of mucous membrane of pharynx and left nostril. Abdomen somewhat tender on palpation on left side, in iliac region, much less marked, tenderness on right. Blood, whites 36,000.

May 18. Patient was slightly delirious during the night and did not sleep well on account of abdominal pain. Abdomen this morning is distended and rigid, with diffuse tenderness more marked in the lower portion, but not well defined in any one spot. Bowels moved once during the night, with a little relief. Patient stupid and restless. Murmur at apex less marked. Pulse much better than at entrance, and patient not so typhoidal. Marked restlessness. Vomited early yesterday and again during the afternoon, the vomitus consisting of curdled milk. No vomiting since yesterday afternoon. Whites 44,000. Transferred to surgical service with diagnosis of antrum abscess. Septicemia.

Seen by Dr. J. G. Mumford. Abdomen much distended, tympanitic, very tender to pressure. Temperature rising, general condition growing worse, with increase of abdominal symptoms.

OPERATION. DR. J. G. MUMFORD. ETHER.

Incision in median line. Much free fluid in cavity. Intestines show marked infection and blue color, as if of beginning gangrene. Mesentery light yellow approaching colorless with no vessels seen in area supplying eight feet of intestines which are in the above condition. Areas of fine hemorrhagic spots about the size of one-half dollar on intestines and adjoining mesentery. Small areas in mesentery, suggestive of fat necrosis. Cadaveric odor. Appendix not found, but its region appeared normal. Cheesy gland removed from mesentery. Abdominal cavity washed out with salt solution. Incisions (one in flank for counter opening) wicked. Sent to ward in poor condition.

May 18, 11:30 p. m. Restless, pulse 130, temperature 104, respiration 35. Died at 8:40 a. m. No autopsy.

The following cases are from the Boston City Hospital:

CASE 23 (Dr. Withington).—D. L., man, 47 years, entered May 30, 1898; died June 17, 1898. Chronic diffuse nephritis, with ascites and dilated heart. No symptoms referable to abdomen.

AUTOPSY.

General arteriosclerosis. Hypertrophy and dilatation of heart. Chronic diffuse nephritis. Chronic passive congestion of liver and spleen. Edema and atelectasis of lungs. Thrombosis of branches of superior mesenteric artery.

CASE 24 (Dr. Henry Jackson).—P. C., man aged 39 years, entered September 28, died October 8. Old myocarditis and endocarditis. Now has broken cardiac compensation. Temperature never over 100. Leucocytosis 20,400. October 8 had sudden, severe pain in epigastrium and slight bloody vomitus. Collapsed and died.

AUTOPSY.

Acute peritonitis. Hydrothorax. Pericarditis. Hypertrophy and dilatation of heart with infarction of heart. Mural thrombus in left ventricle. Thrombus in descending branch of left coronary artery. Emboli in mesenteric, left renal and middle meningeal arteries. Bronchopneumonia. Congestion and edema of lungs. Acute bronchitis. Old infarcts of spleen. Infarct of intestine. Chronic passive congestion of liver. Cholelithiasis. Cyst and softening of cerebellum.

CASE 25 (Dr. Ames).—C. A., man, 44 years, entered Boston City Hospital Aug. 6, 1901, died August 14. Story of weakness in legs. Occasional cardiac pain. Sudden dyspnea, then pain in foot, frontal headache. Whites 19,800. Hemoglobin 100 per cent. Subcutaneous hemorrhages of left leg, pinhead to one-fourth inch in size.

August 10. Noisy. Right hemianopsia. No heart murmur.

August 14. Died delirious, with no signs from belly, no tenderness.

AUTOPSY.

Thrombosis of pulmonary artery. Thrombosis of right auricle, with extension into left auricle, through patent foramen ovale. Embolus of left renal artery, both iliacs, superior mesenteric, hepatic, splenic, innominate and left carotid. Infarct of spleen and kidneys. Acute softening of left occipital lobe of cerebrum. Scar of old cyst in right corpus striatum. Cholelithiasis. Infarct of intestine from duodenum to splenic flexure.

CASE 26 (Drs. J. C. Munro and E. H. Nichols).—Boy, 17 years, entered Boston City Hospital July 22, 1901.

Family History.—Negative.

Past History.—Whooping-cough and measles. A year ago had severe crampy [illegible] in abdomen, with vomiting, constipation and tenderness; no fever. Attack lasted five days.

Present Illness.—July 18, drank several glasses of ice water and the next morning had sharp abdominal pain, mostly on the right side. He vomited after breakfast, had a few watery movements and attributed symptoms to diarrhea. Food distressed him.

July 20. Chill in evening. Vomited, had much tenderness on right side. That night several watery movements due to salts.

July 21. Had to go to bed; two chills; vomited again, with severe abdominal pain and increased tenderness in right lower quadrant. To-day another chill, with fever, which has been present since July 18.

Physical Examination.—Icterus of scleræ. Heart negative. Lungs, râles at right apex. Some tenderness on deep pressure in hepatic area. Tender under outer edge of right rectus, where small mass could be felt.

OPERATION. DR. NICHOLS.

Appendectomy with drainage.

July 23. Temperature still up. Delirious. Slight tenderness in hepatic area.

July 26. Whites 10,200. Small, offensive, purulent discharge from wound. Daily chill.

July 29. Chill, vomited twice.

OPERATION. DR. MUNRO.

August 5. Drained pus, retroperitoneal, from broken-down gland. Exploratory punctures of liver negative. Died August 15.

AUTOPSY.

Operation wounds. Localized adhesive peritonitis. Pus pockets and softened lymph nodes about cecum. Thrombosis of superior mesenteric vein and branches. Suppurative pylephlebitis, with multiple abscesses of liver. Infarct of spleen. Acute bronchopneumonia. Acute splenic tumor. Hyperplasia of mesenteric lymph nodes. Fatty degeneration of heart. Ulcers of colon. Chronic tuberculosis of retrocecal lymph node. Appendectomy stump.

CASE 27 (Dr. Paul Thorndike).—Negro, 21 years, entered Boston City Hospital Sept. 2, 1902.

Family History.—Negative.

Past History.—Healthy. Has had four or five attacks of gonorrhea. Last one about one year ago. Denies lues. Rarely drinks. Smokes to excess. Had acute epigastric pain lasting about twenty-four hours last summer.

Present Illness.—Malaise all last week. Five days ago began to have colicky pains, accompanied with chills and fever. Abdominal pain general, constant, with colicky exacerbations. Chills quite severe. Next day vomited medicine. Pain has continued to grow worse till to-day, when patient was given "tablets" by outside physician. He felt hot and feverish all the time. Bowels only moved with medicine. Stools natural color, soft consistency. Passed some gas. Micturition not frequent, and without pain. No cough. Feels weak.

Physical Examination.—Well developed and nourished. Anxious expression. Tongue thick, brownish, dry coat. Pulse

regular, slightly rapid, fair volume and tension. Heart and lungs negative. Area of liver dullness normal. Spleen not made out. Abdomen, protrusion of umbilicus, with opening, which admits the little finger tip. No hernia. Muscles of abdomen held moderately rigid. Tympanitis, except for an area on the left, beginning on level with umbilicus, extending down to Poupart's ligament, limited internally by the middle line. Percussion note over this area is almost flat. Flatness extends deep into flank, except for a small area, where there is high-pitched tympany. Over flat area muscular spasm is marked, with considerable tenderness, not definitely localized in one spot. On deep palpation, tenderness is also elicited in right lower quadrant, but not so marked as on the left. No mass made out. No herniæ. Rectal examination, slight tenderness high up on left. Extremities negative.

September 3. Enema returned only slightly tinged. No vomiting.

September 4. Increasing severity of abdominal symptoms and white count.

OPERATION. DR. THORNDIKE.

Incision below umbilicus in middle line. Very slight amount of blood-stained serum escaped. Small intestines collapsed. Colon distended. A hard, firm mass could be felt lying beneath the intestines. Luster of small intestine preserved, slightly darker color than normal. Venous network in wall plainly seen as fine, dark lines. Towards the mesentery the larger veins appeared thrombotic. No area of necrosis or sloughing. Mesentery of small intestine enormously thickened in a wedge shape. The thickened portion two to three inches on section. It was reddish brown in color, with occasional hemorrhagic areas. Incision into mesentery revealed dark venous blood. Mesenteric glands enlarged and indurated. Almost whole mesentery was involved, so cavity was closed with drainage.

September 8. After operation, collapse. Better next day. Occasionally vomited dark green fluid. Hiccough and restless. Abdomen distended. Obstipation.

September 10. Moribund for two days. Abdomen distended and tender. Died.

AUTOPSY. DR. SOUTHARD.

Mesentery size of tangerine orange. Enlarged glands give vaguely knotted character to mass. Stomach greatly dilated with gas. Bowels of a dark color throughout. Superior mesenteric artery and branches free. Bowel contains tarry, dark, mashy material.

Anatomic Diagnosis.—Infarction of intestine, with (a) enlargement of mesenteric lymph nodes; (b) suppurative pylephlebitis of superior mesenteric system; (c) abscess of mesentery; (d) acute general peritonitis. Infarction of liver. Subendothelial hemorrhage of hepatic vein. Cloudy swelling of kidney. Celiotomy. Chronic adhesive perityphlitis. Slight chronic fibrous pleuritis.

ETIOLOGY.

All those diseases which lead to the formation of thrombi whence emboli can arise, are of direct etiologic significance for mesenteric occlusion. Endocarditis, atheroma of the aorta and arteriosclerosis, especially of the mesenteric arteries, are of first rank. Sclerosis of the mesenteric arteries has been found, even in cases in which the peripheral vessels or the aorta showed no atheroma, and this process can involve even the finest branches. The results of this are evident, and are well stated by Neutra.[8] He says:

By the calcification, the arterial wall loses its elasticity and becomes narrowed, a condition which hinders the formation of a collateral circulation through the anastomoses. This can be observed clearly in a case of Deckart, where only a small twig was plugged, causing the formation of a ring-shaped ulcer, because the lumen of the neighboring vessels was narrowed by numerous deposits on the intima, so that in common with the loss of elasticity of the arterial wall an adequate collateral circulation was prevented. The calcification may be of such a degree that the plaques, without any thrombus, nearly fill the whole vessel lumen, as is seen in a case of Adénot. A similar if not identical process is described by Litten, which he calls "lattice-work endarteritis," which gives rise to thrombosis of the involved artery. According to the statements of this author, it is characteristic of this disease, that in spots it surrounds, in a ring-like form, the whole circumference of an otherwise healthy vessel.

Lorenz[17] has published a case of closure of the superior mesenteric artery, which followed multiple neuritis, as a terminal process. The process was characterized by a growth of the intima of the finer branches, combined with nodular dilations.

In the case of venous thrombosis, all conditions causing stasis in the portal system play a causative rôle. Here it is a question whether the thrombus is primary in the mesenteric veins, and, therefore, an ascending one, or itself secondary to a process beginning higher up. As a matter of fact, both sorts of cases seem to occur. Of etiologic importance for the primary thrombosis are all intestinal changes which allow penetration of bacteria into the vessels. Such are the severe enteritides, surgical infections, puerperium, milk leg and phlebites of the lower extremities; cachexias, such as that of cancer or malaria, sepsis and typhoid fever. Here also should be mentioned the cases which have followed a suppuration in the region of the appendix, as illustrated by our cases (Nos. 16, 17, 26), and also the case of Welch and Flexner,[18] in which the *Bacillus aerogenes capsulatus* was found. Local disease of the vein wall, such as syphilis, etc., has been found (Borrman,[19] Gull[20]).

Secondary venous thrombosis follows cirrhosis and syphilis of the liver; pylephlebitis and processes at the liver hilum which by pressure or the formation of adhesions cause portal stasis. Koester[21] maintains that slowing of the circulation is, in itself, unable to cause venous thromboses, and gives this only as a predisposing cause. Neutra opposes this view, however, and certainly the weight of evidence of reported cases seems to be in his favor. In several cases also thrombosis of the veins has followed arterial emboli, apparently by the stasis thus brought about.

COURSE OF DISEASE.

The cases can be divided into two groups—acute and chronic. The first group is by far the larger, and is composed of cases of sudden onset of colicky abdominal pain, often at a time when the patient was in apparently full health. This is then followed by nausea and vomiting, often bloody, and diarrhea, also often bloody; or the picture is one of obstinate intestinal obstruction of the paralytic type. Often not even flatus is passed. In many cases the temperature falls below normal. The abdomen rapidly becomes distended with gas, peristalsis is absent, and death occurs often in a few hours or days.

The second and smaller group is formed by cases of insidious onset and chronic, sometimes remitting symptoms; by cases having no symptoms referable to the abdomen during life; and by cases where spontaneous cure resulted.

The tendency is to consider the cases of arterial embolism as forming the acute group, and those of venous thrombosis as making up the bulk of the chronic cases. On analyzing our list of 214 cases we find the following: In only 197 cases is an accurate statement obtainable which can form a basis of separation into arterial

17. Zeitschr. f. klin. Med., 1891, vol. xviii, p. 407.
18. Jour. Exper. Med., 1896, vol. i, p. 35.
19. Deutsch. Archiv f. klin. Med., 1897, vol. lix, p. 281.
20. Guy's Hospital Reports, London, 1883-84, p. 15.
21. Deutsch. med. Woch., 1898, p. 325.

and venous varieties. Of these, 120 cases, or 61 per cent., were of arterial closure, while 77 cases, or 39 per cent., were venous. In 71 of the arterial, and in 50 of the venous group, accurate data as to duration are given. They are tabulated as follows:

VEIN.		ARTERY.	
Duration.	Per cent.	Duration.	Per cent.
24 hours	20	24 hours	20
2 days	18	2 days	22
3 days	9	3 days	10
5 days	12	4 days	6
1 week	16	5 days	3
10 days	2	1 week	17
2 weeks	8	10 days	0
3 weeks	10	2 weeks	10
1 month	4	3 weeks	4
6 weeks	2	1 month	2
		5 weeks	1
	100		100

It thus becomes evident that the course is surprisingly similar in each variety of cases, and that no differentiation can be made on this point.

In each group there were 7 cases of markedly chronic course, that is, over two months. Of these, those due to venous closure were more apt to show gradual and continuous progression, while the arterial often ran a course of various attacks, interrupted by longer or shorter intervals of comparative health. On these latter Neutra lays special stress, and calls them chronic, relapsing cases (c.f. cases of Alexander,[22] Kaufmann,[14] Spiegelberg,[23] Goodheart,[24] Rolleston[25] and others).

These cases are apparently due to a thrombosis which makes more marked progress from time to time, with the establishment of a competent circulation, through collaterals in the meantime.

That partial healing takes place has been inferred from what has already been said in discussing the formation of collateral circulation (c.f. also case of Packard[26]). In a few cases also, 14 in number, recovery has taken place. In 4 of these, the diagnosis was established at operation. In several of the others, however, the diagnosis seems perfectly justified (Aufrecht,[27] Finlayson,[28] Moos,[29] Schlesinger,[30] etc.).

PATHOLOGY.

The pictures found at postmortem examination are most varied, dependent, firstly, on the situation of occlusion, and secondly, on the duration of the process. So the infarcted area may show only simple hyperemia, or there may be gangrene, perforation and peritonitis, either localized or general. In the large majority of cases there is free fluid in the general cavity, often blood-stained, and usually in amount sufficient to be demonstrable during life. In about three-fifths of the cases the infarcted area showed a well-marked line of demarcation. In some cases, however, the boundary between healthy and diseased gut is absent. This occurs, according to Neutra, in two ways. Firstly, in some favorable conditions collateral circulation develops, but not one which is sufficient to care for the whole infarcted area, and so protects only the margins; secondly, it is conceivable (especially in thrombosis) that the occlusion in the terminal branches is irregular, and so the end line becomes hazy. In a considerable number of cases the process involved the whole small intestine, ascending, and part of the transverse colon. Closure of the inferior artery causes changes, most marked in the large intestine. Smaller areas of involvement are most numerous in the ileum. The contents of the intestine are bloody in about two-thirds of the cases in which accurate data as to this point are given.

Ulcerations of the intestinal mucosa, often ring-shaped and surrounding the whole circumference, also are not rare. The mesentery is often thickened and edematous, and in several instances there was found an extravasation of blood between its layers, forming a tumor of varying size, sometimes palpable. The intestine is often found distended by gases of decomposition, and in a few cases its wall has been the seat of air vesicles, shown in the case of Welch and Flexner,[18] to be due to the aerogenes capsulatus. Subserous hemorrhages from finest petechiæ up to 3 or 4 cm. are also found. The mesenteric glands and lymphatic tissue are often swollen. In cases of venous closure, in contradistinction to embolus of the mesenteric arteries, the large intestine is only seldom affected. The probable reason for this is to be found in the more abundant anastomoses, between the inferior mesenteric vein and the inferior cava, with the hemorrhoidal vein.

Here we may also mention the views of Sprengel[31] who, basing his theories on the experimental work of Kader,[32] finds cases which he classes as hemorrhagic infarction on the one hand, and anemic gangrene on the other. The first is the result of plugging of an arterial or venous supply, while the second only occurs when on closure of an arterial supply the return stream is impossible. Corresponding with this, he makes two clinical groups—the one with intestinal hemorrhages or bloody vomiting, the other with simple ileus. This division is worked out very prettily, but is disbelieved by Talke,[33] and we agree with him. He very pertinently quotes cases of simultaneous closure of artery and vein where, instead of the anemic gangrene to be expected from the statements of Sprengel, there was found hemorrhagic infarction (cases of Taylor,[34] Grosskurth[35]). On the other hand, a case of Grawitz[36] was anemic with only arterial closure.

It is also interesting from a comparative pathologic point of view to find that this same process is common in the horse, due to the parasite *Strongylus armatus*, which often is situated in the mesenteric arteries, causing chronic endarteritis and thrombosis, with the formation of a so-called aneurisma verminosum. The sequelæ as regards emboli and infarction are wholly parallel to those found in man.

AGE AND SEX.

Sixty-four per cent. of the cases occurred in men, and 36 per cent. in women. One case occurred at 1 month, another at 5 years, and another at 8 years. The rest are seen as follows:

	Per cent.		Per cent.
10 to 19 years	4	60 to 69 years	15
20 to 29 years	12	70 to 79 years	8
30 to 39 years	16	80 to 89 years	3
40 to 49 years	22	90 to 99 years	2
50 to 59 years	18		

It is thus seen that over one-half of the cases occur between 30 and 60 years of life.

(*To be continued.*)

22. Berliner klin. Woch., 1866, p. 35.
23. Virchow's Archiv, vol. cxiii, 1885.
24. Pathological Transactions, 1850.
25. Trans. Pathological Soc., London, 1892, vol. xliii, p. 49.
26. Proc. Path. Soc., Phila., 1898, n. s. i. p. 289.
27. Deutsch. Archiv f. klin. Med., 1902, vol. lxxii, Nos. 5-6.
28. Glasgow Med. Jour., 1883, p. 414.
29. Virchow's Archiv, vol. xli, p. 58.
30. Cited by Neutra.
31. Verhandl. d. Deutsch Gesellsch. f. Chir., Berlin, 1902, vol. xxxi, p. 55.
32. Deutsch. Zeitsch. f. Chir., vol. xxxiii, p. 57.
33. Beuns' Beiträge z. klin. Chir., vol. xxxviii, p. 743.
34. Path. Transactions, 1881, vol. xxxii, p. 61.
35. Inaug. Diss., Giessen, 1895.
36. Virchow's Archiv, vol. cx, p. 434.

THE YELLOW FEVER EPIDEMIC OF 1903 AT LAREDO, TEXAS.*

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WASHINGTON, D. C.

In accordance with orders from the Surgeon General, I arrived in Laredo, Texas, September 25, in company with Dr. George R. Tabor, state health officer of Texas, whom I met at San Antonio. Dr. Tabor and I discussed the probable situation at Laredo and the steps to be taken to combat the outbreak of yellow fever at that point.

Among other things we touched on the necessity of a detention camp. In the name of the Government I offered to establish and run such a camp. The offer, however, was courteously refused by Dr. Tabor for the reason that he believed it would appear derogatory to the dignity of the State of Texas so to do.

On our arrival at Laredo we proceeded at once to view the two fatal cases of supposed yellow fever that had occurred during the day, Cortina and Gilkerson. In both the history was that of yellow fever, and the external appearances in connection with the history, left no doubt as to its diagnosis. An autopsy was performed in the case of Gilkerson, and all the characteristic postmortem signs of the disease were found. These cases resided in two widely separated parts of the town. It was impossible to define the source of infection in either case.

As the city and county authorities were without funds to carry out measures for the suppression of the epidemic, Dr. Tabor took charge of the situation, accepting the co-operation of the Public Health and Marine-Hospital Service I offered. It was decided later between Dr. Tabor and myself that the Public Health and Marine-Hospital Service should take charge of the sanitary measures to stamp out the epidemic and keep up the quarantine guard on the frontier which had been previously established by Acting Assistant Surgeon Hamilton. Dr. Tabor was to establish and control a detention camp and look after the protection of the state of Texas against infection. The material for the camp was to be supplied by the Public Health and Marine-Hospital Service.

I regretted not being able to take charge of this camp, but the fact that the distance from Laredo to the nearest point on the Texas frontier within the United States is about 575 miles, the protection of the surrounding territory amounted in fact to the protection of the state of Texas and evidently devolved on the state authorities if they were willing to undertake it.

Dr. Tabor also was to organize and enforce a house-to-house inspection, should such become necessary, as in fact it did within a few days.

The fact that two deaths from yellow fever had occurred at two widely separated points led to the belief that the disease had been present in Laredo for some time and had obtained considerable headway. This was shown to be true when three suspicious cases were reported the following day, September 26, which were promptly confirmed, and six positive cases and one death reported on September 27. From September 28 to 28 thirteen positive cases, three deaths and seven suspects were recorded. No clearly defined connection could be found between these cases, although they seemed grouped around three foci. It was, moreover, very probable that the number of cases was greater than appeared from the official record, inasmuch as with one or two exceptions the Laredo physicians were unacquainted with yellow fever, and at that time, when there were still many persons who denied the existence of the disease, they were lukewarm in reporting cases. In addition, the ignorant class of the population seldom called in a physician, fearful that they might be quarantined or sent to a hospital.

It was, therefore, evident that the disease had obtained a firm foothold and was widely disseminated in a population consisting almost entirely of non-immunes. It was reasonable to suppose that the disease had existed for several weeks and that we were in the period of the third mosquito infection.

Now, turning our attention toward the other side of the Rio Grande, to the Mexican town of Nuevo Laredo, situated directly opposite to Laredo, Texas, and connected therewith by a railroad bridge, a foot bridge, boat ferries and several easily traveled fords, we find that up to September 25 the health authorities there had reported six cases and four deaths from yellow fever. The first officially reported case was a death, that of Dr. Ruiz, on September 14, and immediately thereafter quarantine was declared against Nuevo Laredo. A conference with the health authorities of the town and an inspection of the same showed conclusively that the number of cases was much greater than that reported, and that the disease was widely spread.

ORIGIN OF THE EPIDEMIC.

Yellow fever appeared in Tampico, Mexico, during the spring of 1903, as early as May 4, and spread rapidly. From there the disease was propagated along the line of the Mexican National Railroad, reaching Victoria, Linares and Monterey.

The Mexican sanitary authorities established quarantines to protect these places, but it is well known, and the results clearly show that these quarantines were not effective. The authorities of these towns, moreover, instituted a system of denials of the presence of yellow fever in their midst—the same methods usually practiced among us in the southern states under like circumstances, with the result that a feeling of false security was established, and the disease given every opportunity to spread.

There is good reason to believe that yellow fever existed in Monterey as early as the latter part of June, a death from what would appear to be that disease having occurred on June 24. The deceased, Manuel Porras, was a near relative of Mr. Barker, our clerk in the office of the Public Health and Marine-Hospital Service at Laredo, Texas, and the history of the case was obtained with great care, and is worthy of credence.

The first published report of a case of yellow fever in Monterey was issued August 29. It will be seen, therefore, that if the case of Porras was yellow fever, as I am inclined to believe, two months and over elapsed before any steps were taken to prevent its spread from that city. Under such circumstances it is easy to conceive how the disease extended along the Mexican National Railroad and reached the two Laredos on the Rio Grande.

Careful investigation shows that the infection of Nuevo Laredo may have originated from Victoria, in the state of Tamaulipas, Mexico. This town, which is the capital of the state above mentioned, is situated on the line of the Mexican National Railroad and about one hundred and fifty miles to the north and west of Tampico. I quote from Acting Assistant Surgeon Hamilton's report on this subject, he having been detailed especially to make this investigation:

> A family left Victoria, Mexico, for Nuevo Laredo on August 4, arriving in Nuevo Laredo August 5. One child had come down with fever at Monterey, another took ill on arrival at Nuevo Laredo. This family lived near the principal plaza of Nuevo Laredo, where persons from both sides of the border resort for amusement. Neighbors and visitors of this family began having mild attacks of fever about August 25, many of whom lived about the above-mentioned plaza. In Nuevo Laredo the fever spread rapidly, so that when the first known case died, on September 14, recognized through an autopsy, the town was completely infected, especially the central portion.

From all the information obtainable there is good reason to believe that the disease introduced into Nuevo Laredo from Victoria was yellow fever, and it was noted further that persons attacked did not subsequently contract yellow fever when the epidemic was at its height. Inasmuch as the two Laredos are practically one town, and the plaza above referred to is frequented night and day by Americans from Laredo, Texas, it is evident that but a short time would have elapsed before the disease would have been introduced into Laredo. On the other hand, we have the evidence of Dr. Lowry to the effect that Mr. Clarke, president of the Texas Mexican Railroad, was treated by him at Laredo, Texas, for yellow fever on or about July 25. Mr. Clarke had come directly from Monterey before being taken ill.

* Condensed from the original report to the Surgeon General.

Dr. Lowry is one of the most prominent physicians of Laredo, and had had considerable experience with yellow fever. He states that he was puzzled as to the diagnosis in Mr. Clarke's case at the time, but in the light of after-events he felt so sure that it had been a case of yellow fever that he issued a certificate to that effect.

All the above facts show the impossibility of fixing the exact date or mode of introduction of yellow fever into Laredo, Texas, but they also go to demonstrate the fact that it must have been late in July or the beginning of August, and that the disease was imported from Monterey or Victoria, or perhaps both.

The disease at first must have spread slowly (as was to be expected), for an examination of the mortality reports does not show anything suspicious until the month of September. During the last half of this month the disease evidently gathered rapid headway, and within a few days after our arrival (September 25) it was found to be pretty generally disseminated throughout the two Laredos.

The *Stegomyia fasciata* was also found in enormous numbers and widely distributed, and this, with the existing conditions with regard to the water supply, were such that every facility was being afforded for the active propagation of this mosquito.

GENERAL CONDITIONS.

The two Laredos are situated opposite each other on either side of the Rio Grande, which is at this point about five hundred yards wide, with a small islet over towards the American shore. Two bridges span the river, one for pedestrians and vehicles, the other a railroad bridge. Beside these means of communication there is a boat ferry and the stream itself is easily fordable at several points.

Under normal conditions the population of Laredo, Texas, is estimated at 18,000 and that of Nuevo Laredo at 8,000 souls. During the late summer and fall there is a large influx of the laboring classes, who go to the Texas cotton fields to obtain employment in gathering that crop. The rumors of the existence of yellow fever and the final declaration of its presence in Nuevo Laredo on September 15, and in Laredo on September 25, caused a large exodus, the extent of which is variously estimated.

The general impression is that during the epidemic there remained about 10,000 people in Laredo and 6,000 in Nuevo Laredo. This number was materially increased during the latter stages of the epidemic, that is, during the month of November, by the return of the cotton pickers. This introduction of new material at that time exerted a baneful influence in the suppression of the epidemic.

The population of Nuevo Laredo, of course, consists almost entirely of Mexicans, there being very few Americans. In a measure the same might be said of Laredo, Texas. It is estimated that there are but 3,000 Americans in the place. Moreover, the Mexican population consists almost entirely of Mexicans of the lower class, ignorant and superstitious.

The water supply of both towns is obtained from the same source, the Rio Grande. A private waterworks company, situated on the American side, supplies both towns, although the rates are such that the poorer classes do not, or can not, avail themselves of its advantages, so that the sale of water on the streets by means of water carts is a thriving industry. These carts obtain their water directly from the river. The water supplied by the waterworks company, although filtered, is claimed to be very muddy the greater part of the year. This, and the use of water taken directly from the river, has given rise to the general custom of using barrels for the purpose of allowing the water to settle. Every house is supplied with from one to ten water casks. These are naturally kept in sheds or some dark or shady place around the premises. As breeding places for mosquitos, and especially the *Stegomyia fasciata*, it would be difficult to improve on them.

The habitations of the poorer classes are of the very worst type. Many are simply adobe huts with thatched roofs and consist of but one room, with probably a shed outside utilized as a kitchen. Others are made of lumber, with no attempt at apposition of the planks, while others again are partly or wholly constructed of old pieces of tin or iron, with just enough lumber to attach these thereto. It is no exaggeration to say that in most parts of the States domestic animals are housed better than many of the people of Laredo.

Two railroads enter Laredo from the north and east, the International and Great Northern and the Texas-Mexican, respectively. These connect across the railway bridge already mentioned with the Mexican National on the other side of the Rio Grande.

Such, then, in brief were the surroundings and circumstances which confronted us when the presence of yellow fever was officially declared at Laredo, September 25. Quarantine against Laredo having been declared by the state health officer, all the railroad traffic out of Laredo to points in the United States was at once stopped. Through traffic southward, that is, to points in Mexico, was continued. So far as the Texas-Mexican Railroad running from Laredo to Corpus Christi is concerned this suspension of traffic continued throughout the epidemic, despite the efforts made to re-establish it.

Through passenger travel via the International and Great Northern Railroad to points north of Arkansas, Indian Territory and the Ohio River was resumed on September 28 and continued, with several interruptions, during the epidemic. These interruptions were due in part to the shotgun quarantines instituted along the line, particularly by Encinal and Frio counties, and also to the lack of effort on the part of the railroad.

Freight traffic from Laredo was entirely suspended during the epidemic, working great hardship to the business interests of the town. It seemed a pity to see these interests sacrificed when there were means whereby they could have been conserved without danger of carrying infection.

DETENTION CAMP.

A detention or refugee camp was, of course, necessary. The Public Health and Marine-Hospital Service had made provision for such an emergency when the first rumors of yellow fever on the border were circulated, two or three weeks before the disease was officially announced to be present in Laredo. A complete camp outfit for one hundred persons had been shipped from New Orleans and arrived in the neighborhood of Laredo at the very moment when it was most needed. Owing to this wise provision of the Bureau we were enabled at a critical moment to offer Dr. Tabor the material necessary for a detention camp, of which, for the reasons already stated, he considered it his duty to take charge.

One of the camps was situated at Sanchez, a siding about five miles north of Laredo, on the International and Great Northern Railroad, and Dr. Cook, a capable officer, placed in charge of the same. The camp was opened October 2, with sufficient accommodation for twenty-five refugees. Later on its capacity was increased to forty.

A small camp, known as "Camp Daniel," was established on the Texas-Mexican Railroad, about five miles to the east of the city. This was scarcely utilized for the reason that Duval and Nueces counties, through which the road runs, had instituted a quarantine of absolute non-intercourse.

"Camp Sanchez" had a varied existence. It served a good purpose, although not much patronized, only about seventy persons passing through the camp from October 1 to November 2. It became infected October 14, that is, a case of yellow fever developed among the refugees and remained there seven or eight hours before it was removed, long enough to have infected some mosquitoes if any were present. Another case of yellow fever occurred at the camp during the month of October, that of William Maroney. The camp was closed November 24 and then reopened about December 14 at the urgent request of citizens. The certificates of Camp Sanchez were in some cases rejected by county authorities.

QUARANTINE AGAINST MEXICO.

To prevent the introduction of further infection, a strict quarantine was kept up against infected points in Mexico. The border, that is, the Rio Grande, was patroled by guards. These consisted of a number of Texas Rangers under the direction of State Health Officer Tabor and about fifty men

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employed by the Service, and aided by United States custom inspectors. They worked harmoniously together and did good service, although I do not consider that the patrol was entirely effective. The natural conditions of the river between the two cities and for miles above and below are such that it would take a very large force of well-disciplined men to make it absolutely secure against the possibility of any one crossing who had especial interest in doing so and possessed the necessary courage.

SANITARY WORK OF SERVICE.

We entered into our work with great enthusiasm, and during the first few days we were filled with the hope that our efforts would be crowned with brilliant results, that is, we would be able to wipe out the epidemic in a month or six weeks. In this we were doomed to disappointment. It was soon found that the disease was too widely spread and that the obstacles to be overcome in carrying out the necessary sanitary measures were many and serious, and in some cases insurmountable under existing circumstances. However, while the results of our efforts did not come up to our expectations, they were gratifying and productive of much good, as the sequel will show.

On the 26th of September an office was established in the central part of the city for the transaction of business, and on the following day, September 27, the sanitary corps under my command was given a definite organization. Four mosquito sections had been formed, with an acting assistant surgeon in charge of each, and Passed Assistant Surgeon Von Ezdorf given general supervision over the entire squad. Each section consisted of about eight men, one of whom was a carpenter and another was designated as foreman and had charge of the material. Each section was supplied with a cart containing all the material necessary for the work, to-wit: sulphur and pyrethrum powder in sufficient quantity, twenty-five pots, twenty-five pans, five-gallon can wood alcohol, roll of paper, shears, knives, bucket of paste, brushes, brooms, wall brushes, mosquito netting, a number of strips of laths, nails, hatchet, saw, ready-made screen door and windows, ladder, five-gallon can kerosene oil.

Within a short time the above system was somewhat modified with the object of gaining time and effectiveness. The carpenters were separated from the general disinfecting sections and formed, at first, into two and later into three "screening", sections. These were composed each of two or three carpenters, supplied with a wagon carrying tools, lumber, mosquito bars and mosquito netting. The modus operandi was then as follows: Immediately on a case (whether suspicious or positive) being reported to us by the state board of health or by any one having authority to do so, a screening section was at once sent out and the infected house "screened." This "screening" varied according to circumstances. Unnecessary doors and windows were closed tight. One window and a door of the patient's room were left open for ventilation and to admit those caring for him, and both of these fitted with screens. Often the conditions did not admit of this. The shacks or "jacals" of the poorer classes consisted of but one room with innumerable cracks and openings in the walls and rooms. Screening was impracticable here and the patient was placed under a mosquito bar. Towards the end of the epidemic I had a portable mosquito house built, covered with wire gauze and with double doors, which was applicable to such cases. The patient being thus isolated and rendered as safe as possible against propagating the disease by infecting the mosquito, the disinfecting section would come along and disinfect the premises and surrounding houses to kill the insects already infected. It was the duty also of the disinfecting section to pour oil in all cisterns, barrels or other receptacles of stagnant waters found on the premises disinfected.

PROCESS OF DISINFECTION.

The details of the process were as follows: The room or house was made mosquito-tight. To accomplish this all doors and windows were closed. Paper was then cut into strips and pasted over all cracks or openings through which mosquitoes might escape; the chimney was made secure.

In many cases houses were in such bad condition that they had to be almost completely papered over, both inside and out, and large unprotected openings covered entirely with sheets of paper. In the meantime the pots were being filled with sulphur or pyrethrum, as the case might demand, and placed in position on pans filled with water. These water pans served a double purpose, to prevent danger from fire and for the purpose of collecting mosquitoes, for experience had shown that after disinfection nearly all the dead mosquitoes within the room were found in the pans. The plan used in Havana to facilitate the gathering of the mosquito was employed at first, that is, to place a moist piece of paper in front of a window or wherever light might enter, with the object that after disinfection the majority of the dead or stunned insects would be found on this paper. This plan was based on the supposition that the mosquito sought the light and fell on the moist paper and adhered to it. This method was discontinued when experience showed us that what attracted the mosquito during the process of asphyxiation was the water and not the light, for they were invariably found in the water pans even when these were in dark corners.

The pots and pans being in position, about fifty cubic centimeters of alcohol were poured on the sulphur or pyrethrum, as the case might be, and the contents ignited. Then, without loss of time, the disinfectors would retire, closing the last door of exit and pasting paper over any cracks that might be found in it. When the house admitted of it all rooms except that of the patient were first disinfected, and he was then removed to one of the disinfected rooms duly protected from mosquitoes, so as to permit of the disinfection of the room occupied by him. A great number of the houses or "jacals" consisted of but one apartment, in which case the patient was removed, temporarily, under a tent during the process of disinfection. The latter plan was inapplicable in cold or bad weather, and then it was necessary to wait until circumstances would admit of disinfection, keeping the patient screened in the meantime.

For the purposes of mosquito disinfection sulphur was burned in the proportion of four pounds to the one thousand cubic feet, with four hours' exposure; pyrethrum, six pounds to the one thousand cubic feet and six hours' exposure.

On the termination of the disinfection the house was opened and the floors, walls, furniture, etc., carefully swept for the purpose of collecting all asphyxiated mosquitoes and immediately incinerating them. When pyrethrum was used as a disinfectant this operation was done with scrupulous care; when using sulphur it was not so necessary, as the insects were always found dead. As before stated, the great majority of the insects were found in the water pans beneath the pots.

There is no question that sulphur is the best agent for mosquito disinfection. It is certain in its effects and during the short exposure necessary to kill the mosquito little or no harm is done to fabrics or other articles usually injured in this process, when the exposure is of longer duration. Sulphur was our main reliance, although pyrethrum was used where any possibility of damage was to be apprehended. Of the large number of houses disinfected (2,952) there was not a single case of complaint, well founded, of appreciable injury caused by the process of disinfection.

The above described plan was adhered to until the end of the epidemic, with the modification that the duties of oiling cisterns, barrels and receptacles assumed such proportions, and were of such paramount importance, that they were in great part taken away from the disinfecting sections and turned over to an independent section. The former, however, always carried a supply of oil and were ordered to inspect and oil all standing water not previously oiled.

The importance of destroying all breeding places for mosquitoes was apparent from the beginning of the campaign and the disinfecting sections were duly instructed as to their duties in that respect. But of course these only reached premises and their immediate surroundings that had been reported infected.

It had been arranged that the state and city health authorities would undertake a general sanitary inspection and oiling

of all water containers, but inasmuch as the destruction of breeding places for the mosquito was of the utmost importance and was so closely associated with the work the Service had in hand, I suggested to Health Officer Tabor that I undertake the work. To this he assented very willingly, offering to aid us in every way in his power to carry out our designs. Dr. Tabor's aid was very effective in procuring a large quantity of crude oil and in enforcing a strict quarantine against those who refused to allow us to proceed with our work.

So, October 9, an oiling section was organized and set to work. This section was put in charge of Acting Assistant Surgeon Frick, with a wagon carrying the necessary material. Subsequently it was divided into two sections, one attending to the sprinkling of the streets, pools, ponds and other large bodies of standing water, the other looking after water barrels, cisterns, pails, tin cans and all other water containers found in the neighborhood of houses.

Naturally much opposition arose against the oiling of water barrels, especially among the ignorant classes, who were led to believe that our object was to poison the water. On several occasions this opposition assumed serious and menacing proportions, so much so that the lives of the officers and men engaged in the work were threatened. To obviate this difficulty it was decided to put wooden faucets in the barrels of drinking water, so that the water might be drawn from below, free from oil contamination. The "oiling section" was duly supplied with these faucets, with instructions to apply them to all barrels containing water for drinking purposes. This measure was very effective in allaying irritation and averting trouble with the people. It greatly facilitated the work and made it more effective, although there were always some who objected violently against interference on our part with their water barrels.

Within a short time the "oiling section," under its efficient chief, became so apt in its duties that the entire city could be inspected and oiled in five or six days, so that within that time every water container and other deposits of standing water was inspected and treated, making it impossible for the mosquito larvæ to arrive at maturity. During the first tour of the town 3,500 barrels, without including other containers, were oiled.

I consider this as one of the most important features in the campaign against yellow fever at Laredo, and too much praise can not be given Dr. Frick for the energy and intelligence with which he handled every detail of the work committed to him. The results were so gratifying that when Assistant Surgeon Goldberger arrived in Laredo, November 21, under orders from the Bureau to secure specimens of larvæ of the *Stegomyia fasciata*, he found it impossible to secure a sufficient number for the purposes contemplated. A thorough inspection of the town, on three or four successive days, yielded only about one hundred mosquito larvæ, half of which were anopheles.

The following table gives a synopsis of the immense amount of work done by the oiling brigade from October 9 to November 30, both dates inclusive. The entire town was gone over six times:

SYNOPSIS OF WORK DONE BY OILING BRIGADE.

Containers oiled	22,458
Excavations oiled	2,562
Tanks and cisterns oiled	499
Premises oiled	3,134
Premises inspected	10,640
Faucets applied to water barrels	1,075
City blocks sprinkled with oil	2,134

In addition, about 70,000 square feet of standing water were oiled in neighboring arroyos or creeks, and on the streets after rainstorms.

As the epidemic increased the number of disinfecting sections was increased by the addition of two large ones, composed of ten men each, with an experienced foreman and the necessary outfit. It had become evident that the Havana methods of controlling yellow fever were not quite applicable to Laredo, under existing circumstances, and it was determined to undertake a systematic and complete disinfection of the entire city. These two sections were started at the southeast and southwest extremities of the town, working toward each other and at the same time pushing north. Every house and building was included in this disinfection; schools, public buildings and churches, no matter whether or not they had been previously disinfected. By December 1 two-thirds of the town had been covered by this general disinfection, including its most thickly populated portions. This work was continued after December 1 by Acting Assistant Surgeon Frick and completed under his direction.

From September 26 to November 30, both dates inclusive, 2,952 houses and buildings, containing 10,045 rooms, were disinfected. Repetitions are included in the above figures, a number of houses having been disinfected more than once, a few as many as three or four times.

The following table gives a résumé of the work of disinfection:

Houses or rooms screened	304
Patients screened under mosquito bars	115
Houses disinfected	2,952
Rooms disinfected	10,045

It is estimated that there are 2,963 houses in Laredo. This figure was obtained after careful investigation. Of the above number 580 were infected, or 19.54 per cent.; in other words, one house in five. These figures show that the infection was well generalized. The work of screening and disinfection was under the immediate supervision of Passed Assistant Surgeon Von Ezdorf and was admirably directed by him.

Such, then, in brief, was the plan of campaign adopted to stamp out the epidemic. To recapitulate: (*a*) The isolation of the patient by screening; (*b*) the fumigation of the infected premises for the purpose of killing infected and other mosquitoes; (*c*) to prevent the propagation of the *Stegomyia fasciata* by covering all stagnant water with oil, killing the larvæ and preventing the laying of eggs; (*d*) the general and systematic disinfection of the entire city.

DIFFICULTIES ENCOUNTERED.

It may be well now to discuss the difficulties encountered in the progress of the work and which interfered materially with its effectiveness. These may be done under four heads: 1. Lack of sufficient authority to carry out necessary sanitary measures. 2. Ignorance of the people. 3. The possibility of the introduction of infected mosquitoes from Nuevo Laredo, across the Rio Grande. 4. Unfavorable weather.

The first two items, being closely associated, will be taken up together.

(1) Lack of sufficient authority to carry out sanitary measures, and (2) ignorance of the people.

When yellow fever was declared to be present in Laredo and the town quarantined a large part of the people, particularly the ignorant class, were filled with the idea that the physicians and the authorities were in a conspiracy against them, and that the main object they had in view was the making of money. They went even further, and it was quite generally believed that the physicians poisoned their patients to get rid of them as soon as possible and in this summary manner end the epidemic. Patients not only refused treatment, but resisted, frequently, to permit the use of the clinical thermometer, thinking that this, too, was poisoned. This was certainly an amazing condition of affairs, and it was difficult to believe that such perversion and crass ignorance could exist within the confines of the Republic. These extravagant opinions were supported by one or two irresponsible sheets printed in Laredo.

Under such circumstances it is not to be wondered at, that all possible means were resorted to to hide cases from the physicians and inspectors. It frequently happened that when a physician reached a house where some one had been reported sick no patient was found, the sick one having been removed to other quarters, or else the house would be found empty and closed, the entire family having moved away.

Patients very ill with yellow fever have been known to get out of bed and hide in a privy or other outbuilding when informed that a physician or inspector was approaching. Moreover, they usually had some member of the family on guard to give the required information. A house-to-house inspection was commenced under the direction of the state health officer September 29. This was later on supplemented by vol-

unteer inspectors named by the mayor. The results were not satisfactory. Finally it became so apparent that cases were being hidden, and that this was one of the principal reasons why the epidemic could not be controlled, that I withdrew the four acting assistant surgeons in charge of disinfecting work, and appointing an additional one, started them on house-to-house inspection on November 9. They worked with good results for several days, when the better class of citizens, becoming interested in the matter, offered their services as inspectors. These were put to work under the direction of a committee consisting of the sheriff, the county clerk, the state health officer, the representative of the Public Health and Marine-Hospital Service and several prominent citizens. The results of this intelligent volunteer inspection force, working in conjunction with and under the direction of the sanitary officers, were excellent. In a little over two weeks, with the aid of favorable weather, the epidemic was entirely under control. Too much praise can not be given these citizens for the disinterested and effective work done by them, and it is to be regretted that their services were not offered at an earlier date.

HOSPITAL.

In organizing the plan of campaign against the epidemic, one of the first things that occurred to the writer was the establishment of a hospital. Without one the entire system appeared faulty and ineffective. This was especially the case in a town, such as Laredo has been described to be, with a very large and ignorant proletariat, living in houses which scarcely merited the name, and under hygienic conditions which must be seen to be believed. Here was a large part of the population unable to care for its sick, and among whom the problem of mosquito disinfection was surrounded with difficulties which were at times insurmountable.

How was a miserable "jacal" consisting of but one room eight or ten feet square and about six or eight feet in height, made up of boards loosely thrown together, or tin cans or old sheets of tin or iron and other inconceivable materials, with cracks and open spaces everywhere, to be effectively disinfected? In many cases the patient had to be removed to the shelter of a tent and the house papered inside and out before disinfection could be attempted. But in a structure such as has been described the removal of the patient, and the very process of making it fit for mosquito disinfection defeated in a measure the object in view, for the movements of the men of the disinfecting gang within a space so reduced would be sufficient to drive out the mosquitoes within the inclosure. The attempt to screen a patient under such circumstances was equally difficult, and naturally was not as effective as could have been wished.

A mosquito-proof hospital, in which such patients could have been removed at once, was, therefore, of the greatest importance. But here again we were confronted with the ignorance of the people and the lack of authority to enforce sanitary measures. After consultation with the mayor and other prominent citizens I was dissuaded from carrying out my intentions respecting the establishment of a hospital. It was impressed on me that the very class of cases I wished to remove to a hospital would absolutely refuse to go, and that there was no authority to force them to do so. My experience with the people soon showed me that this was true and the plan to establish a hospital, while ever present to my mind, was finally abandoned. However, I believe it was an error not to have carried out my original intention, and under similar circumstances, and with my experience at Laredo, I would insist on a hospital, well appointed and well managed, hoping in a short time, by a demonstration of its merits, to overcome the prejudice against it.

The lack of authority to carry out sanitary measures was, as may be seen from what has gone before, the most important obstacle to our success in dominating the epidemic. It interfered with the house-to-house inspection, with the oiling of barrels and cisterns, with the screening and disinfection of houses and premises and prevented the establishment of a yellow fever hospital.

The Laredo epidemic has shown conclusively to my mind that results such as were obtained in Havana in the suppression of yellow fever during the American occupation can not be obtained elsewhere, where the disease is widely spread, without the undisputed authority and the means that were at the command of the Government of Intervention in Cuba. These powers in reality amounted to martial law. In Havana, too, there was no tendency to hide cases, and Spanish emigrants, who furnished the majority of cases, were immediately taken by their friends to a "Quinta de Salud" or private hospital connected with beneficial aid societies, of which there are several in Havana, and in this way promptly came under the observation of the authorities, so that proper precaution could be taken. This simplified matters very much.

I believe that under martial law the Laredo epidemic could have been controlled within three or four weeks after the disease had been officially declared, September 25, even though at that time it had already invaded many parts of the town. When one considers what this would have meant to Laredo in the saving of life, the conservation of commercial and railroad interests and, in addition, the benefits to the surrounding districts, it becomes a serious question whether under such circumstances the establishment of martial law, or something equivalent to it, should not be the very first step to be taken in the suppression of an outbreak of yellow fever or in fact of any of the epidemic diseases.

In most epidemics the hardships endured by the people, the loss of life, the interruption of commerce, causing heavy financial losses, all are greater than in the case of riots or other disturbances of the peace for which ordinarily martial law is imposed. Such being the case, it is not clear why this efficient means of combating an epidemic should not be more strongly recommended, nor why so much opposition should be aroused against it, when it is suggested.

Now let us inquire into the third difficulty which presented itself to our efforts to control the epidemic, that is, the proximity of Nuevo Laredo and the possibility of mosquitoes being carried by the winds across the Rio Grande.

In Nuevo Laredo no practical mosquito disinfection was done until late in the epidemic, when something was attempted in that line, so that the number of infected stegomyia must have been very great. During the summer and fall, and until such time as the northers begin to blow with frequency the prevailing wind is from the southeast and south, that is, directly across the river from Nuevo Laredo toward Laredo. The wind at times blows with considerable force. As already stated, the width of the river is about 1,500 feet and there is a long, narrow island, covered in part with thick brush, situated near the American side. The distance from the Mexican bank of the river to this island is about 900 feet, the width of the island 400 feet, and from it to the American side 200 feet.

Under these circumstances I can readily believe that the stegomyia might easily be carried across the river by the wind.

Knowing that the stegomyia is a house mosquito, and therefore, usually, is in a position to obtain shelter against the wind. I do not consider that they would be carried over in any great numbers, but it is very probable that quite a few were introduced into Laredo, Texas, in that way.

The authorities of Nuevo Laredo were urged to take more effective sanitary measures, and in fact a good deal of work was accomplished under the direction of the active and efficient mayor and health officer, Dr. de la Garza; but for lack of funds it was far from being what it should have been. The Mexican authorities, indeed, had the advantage of power, which we lacked. They were not confronted by the good(?) citizen insisting that "his house was his castle" and that he would shoot the first one who attempted an entrance, but on the other hand they lacked the "sinews of war" to make their power effective.

As has been said, the two Laredos are practically one, and the epidemic could have been handled much more effectively had it been possible to so consider them for epidemic purposes. The necessary arrangements should certainly be made

with the countries contiguous to the United States, so that under such circumstances as existed in Laredo, sanitary measures against an epidemic could be taken conjointly by the nations interested.

To the drawbacks already mentioned may be added another—the weather. With the exception of two or three comparatively cool days in the latter half of October the weather was unseasonably warm and wet until late in November. This naturally made our war against the mosquito all the more difficult.

STATISTICS OF EPIDEMIC.

One thousand and fifty cases of yellow fever were reported up to November 30, when the epidemic was declared over and quarantine against Laredo raised. Only a few isolated cases were reported after that date. These 1,050 cases occurred in 580 houses, the patients being screened and the houses disinfected.

Of the above number of cases 103 died, or 9.80 per cent. This mortality is about the same as that in recent epidemics. While I believe that quite a number of the cases reported as such were not yellow fever, there is no doubt that many cases of mild yellow fever escaped the inspectors and were not reported. These two sets of cases probably balance each other, and the figures given may be considered close to the actual truth.

The following table is of interest as showing the difference in mortality among the Americans and Mexicans, and also emphasizes the difficulty we had to contend with in reaching the latter class:

YELLOW FEVER STATISTICS, LAREDO, TEXAS, FROM SEPTEMBER 25 TO NOVEMBER 30:

Number of cases, Mexicans	691
Number of cases, Americans	359
Total	1,050
Number of deaths, Mexicans	95
Number of deaths, Americans	8
Total	103
	Per cent.
Death rate, Mexicans	13.75
Death rate, Americans	2.23
Total death rate	9.80

Fifty-five Mexicans were discovered dead or in a dying condition.

It is estimated by Dr. Juan F. de la Garza of Nuevo Laredo that there occurred in that town during the epidemic from 2,500 to 3,000 cases of yellow fever. From personal observation and from information obtained from reliable citizens of the place, I am inclined to agree with him.

Estimating the population of Nuevo Laredo at the time of the epidemic at 6,000 persons, we deduce that nearly or fully 50 per cent. of the inhabitants were attacked by the disease.

On the other hand, in Laredo, Texas, with an estimated population of 10,000 during the epidemic, there were only 1,050 cases, or about 10 per cent. of the inhabitants thereof. I consider this an excellent showing and sufficient compensation for the labor and expense incurred in fighting the epidemic, bearing in mind also that steps had been taken and were subsequently carried out for completing postepidemic disinfection of the city and surrounding districts with the object of preventing infected mosquitoes and a few isolated cases keeping up the disease during the winter months and giving rise to a fresh outbreak in the spring. For, as a result of our efforts, Laredo can not be considered as an immune town, such as I believe Nuevo Laredo to be. In Nuevo Laredo the epidemic had full sway, and all those naturally subject to the disease, I think had it, whereas in Laredo, Texas, as a result of the sanitary measures taken, there still remains a very large majority of the inhabitants who are liable to contract and spread the disease.

The above figures also compare very favorably with those of the yellow fever epidemic of 1899 at Key West, where a total of 1,350 cases were reported and 68 deaths.

I have no way of knowing what the estimated population of Key West may have been during the epidemic, but judge it would not have been over 12,000. It is probable that of those that remained in the city one-half were immunes, through previous epidemics or, on account of their Cuban birth, having been immunized by an attack of the disease in childhood. So that, with very much less available non-immune material in Key West, the number of cases was considerably greater than in Laredo. This shows clearly the controlling influence of mosquito disinfection.

The quarantine against Laredo by the state of Texas was officially raised November 30; a proclamation to that effect being issued by the governor on that date.

DEATH OF SURGEON R. D. MURRAY.

No place appears more appropriate than this to mention the eminent services rendered by our distinguished fellow-officer and esteemed friend, the late Surgeon R. D. Murray, late ranking surgeon of the Public Health and Marine-Hospital Service, and the veteran of many campaigns, both of arms and of sanitation. He came to Laredo under special orders from the Bureau and united himself with us, joining in our labors, assisting us with his counsel and advice. His special duty was to act as expert diagnostician and ferret out and report cases of yellow fever. He supplemented this by treating a large number of cases, especially of the poorer classes.

The number of physicians in Laredo was limited and, at times, insufficient for the calls on them, so that all the officers of the Service were occasionally occupied in the treatment of cases, work which was foreign to their duties, but which had to be done under stress of circumstances.

Dr. Murray did by far the greatest amount of this volunteer work. The effects of his kind treatment of the Mexicans, remaining night after night at their bedsides in the hope of saving some poor and abandoned patient, was most salutary on the minds of these people and was rapidly breaking down their antipathy and suspicion against the American doctors, when destiny called him away from the scene of his labors and through a deplorable runaway accident on November 15, while on his way to visit a case, he met with injuries which caused his death a week later, on November 22. The demonstrations of grief on this occasion from his fellow officers and the people of Laredo were great, indeed, but not more than a fitting tribute to the great-hearted and generous soul that had passed away.

The tragic death of Surgeon Murray will always leave a feeling of sadness in connection with the epidemic of 1903 at Laredo. He died in full armor, in the discharge of his duties as an officer, a gentleman and a physician.

Laredo was our principal field of operations and we were fully occupied therein, but, notwithstanding this, we were obliged at times to devote some of our attention to nearby towns. Of these Minera furnished some interesting data and will be now considered.

MINERA.

Minera is a mining camp situated about twenty-five miles northwest of Laredo and communicating with it by means of the Rio Grande and Eagle Pass Railroad, one mixed train running daily, except Sundays, over this road. It has a population of about 1,100, consisting of miners and their families, almost all Mexicans. The majority live in houses constructed by and belonging to the Rio Grande Coal Co., but quite a number inhabit miserable huts of the worst kind, built by themselves. The camp is situated close to the banks of the Rio Grande and on the opposite side of the river is the Mexican town of Columbia with a population of about 1,500.

Suspicious cases of illness having been reported from Minera, Surgeon R. D. Murray visited the place October 1 and found seven cases and one death from yellow fever. Minera is well isolated and has no rail communication except with Laredo, so that the danger of the disease being carried to other points in Texas was not great, and as the Rio Grande Coal Co. employed a physician to look after the miners, and our time was fully taken up with Laredo, it was deemed sufficient to give the necessary instructions as to screening and disinfection and leave the carrying out of the work to the company's physician. But as the cases of yellow fever continued to increase in number, it was finally decided that we should take hold of the situation and make an effort to control the epidemic.

F. S. Goodman, pharmacist and special disbursing agent of the Public Health and Marine-Hospital Service, was sent to Minera with a disinfecting gang and a complete outfit, with instructions to disinfect every house in the place and to cover all standing water with oil. The mission of Pharmacist Goodman was executed with extraordinary vigor, thoroughness and success.

The history of the Minera epidemic is extremely interesting and shows conclusively the efficiency of mosquito disinfection in controlling and stamping out an epidemic. Up to October 20 there had occurred in Minera, a town or mining camp of about 1,100 inhabitants, 96 cases and 7 deaths from yellow fever, showing that the disease was generalized. A thorough disinfection of the village done under extreme pressure and within the remarkably short time of something less than three days, was concluded October 21.

On that day two new cases and one death were reported, one case and one death on October 22, and two cases on October 23. From the latter date not a single case occurred until October 30, an interval of more than six days, when one case was reported; then another interval of five days until November 6, when three cases were reported, after which date a few cases appeared from time to time, until the advent of cold weather, aided by the efforts of the officers of the coal company to stem the recrudescence of the disease, following our methods, finally stamped it out.

Considering the incubation period of yellow fever as from five to six days, the above figures show conclusively that the mosquito disinfection of Minera was effective in stamping out the disease.

Whether the second outbreak was due to importation from without or to some infected mosquito that had escaped destruction during the disinfection of the camp, is uncertain, but in any case it is clear that the disease had been practically exterminated and that if reasonable vigilance had been exercised by the officers of the coal company or we had been in a position to devote our attention to the work, the disease would never have been permitted to again obtain any headway. As it is, subsequently to the general disinfection of Minera, on October 21, 36 new cases and 2 deaths occurred up to December 1, without counting the 5 cases and 2 deaths which were reported October 21, 22 and 23, and which it is clear had been infected before the process of disinfection had been concluded.

It is, indeed, more probable that the second infection was introduced from without, as the Mexican town of Columbia, on the other side of the Rio Grande, was at that time ravaged with yellow fever, and in spite of the guards maintained along the river by the Service, the state and the coal company itself, it is well known that there was illicit communication between the two villages.

CONCLUSIONS.

1. The results obtained through the efforts to combat the yellow fever epidemic at Laredo go to demonstrate that the mosquito (*Stegomyia fasciata*), is the only means of transmitting yellow fever and that the efforts to destroy the same were productive of much good, greatly limiting the number of cases.

2. The measures taken to prevent the reproduction of the *Stegomyia fasciata* or other mosquito, by oiling all water containers and deposits of stagnant water, were completely successful.

3. It was demonstrated that to control an epidemic of yellow fever which has gained considerable headway (and such is the condition usually met with), it is necessary to have absolute power to enforce sanitary measures until such time as the people are educated up to the importance of such measures.

4. Inasmuch as the *Stegomyia fasciata* can only become infected by biting the patient during the first three days of the disease, it is of vital importance that cases of fever be reported at the earliest possible moment, so that they may be screened and the mosquito prevented from biting them. Such being the case, an efficient system of inspection is necessary, especially where there is a tendency to hide cases.

5. It is impossible to obtain good results without a mosquito-proof yellow fever hospital.

6. The difficulties of handling an epidemic are increased when such outbreak occurs on the frontier. Arrangements should, therefore, be entered into by treaty with contiguous foreign countries so that, under such circumstances, sanitary measures may be carried out jointly by the countries interested, for mutual protection.

7. Insistent and continued efforts should be made through the public press and other available means to educate the people within the sphere of influence of the *Stegomyia fasciata*, so that they will learn to protect themselves against the invasion or spread of yellow fever among them by destroying the means for the propagation of said mosquito, and by protecting themselves against the mosquito by efficient screening.

Above all, to eradicate the existing fear in the medical profession, as well as among the laity, of declaring the existence of yellow fever. If the first case presenting the slightest suspicious symptoms of that disease were promptly made public, and the proper modern precautions taken, there would be no danger of the disease spreading. In fact, the public should be taught to acknowledge the existence of yellow fever in their midst with the same equanimity as in the case of measles or scarlatina.

8. The effort to control the epidemic at Minera was decidedly successful and would have been entirely so if we could have given it undivided attention. The results at Minera demonstrate almost as clearly as those in Havana that the mosquito is the only means of conveying yellow fever.

Finally, it is a pleasure to state that our relations with Dr. R. G. Tabor, state health officer of the state of Texas, and his staff, as also with the city and county authorities, were most cordial and happy. This accord was of the greatest importance in obtaining the best possible results from our mutual labors.

As to my personal staff, several of whom I have already mentioned in the body of this report, I have to say that one and all complied faithfully with their duties and to them is due in large part such success as we may have achieved.

SUICIDE; WITH SOME ILLUSTRATIVE CASES.*

JOHN L. DAVIS, M.D.

Medical Director of the Union Central Life Insurance Company.

CINCINNATI, OHIO.

The alarming increase of suicide in recent years in this country is sufficient warrant for calling your attention to the subject to-day. The gifted editor of the *Chicago Tribune*, Mr. Upton, recently contributed some statistics to the *Independent* illustrating this lamentable fact. He showed that in twelve years there have been over 77,000 suicides recorded in the United States, the number increasing annually from about 3,500 in 1891 to 8,600 in 1903. Doubtless many cases failed to reach public knowledge, and doubtless many others recognized as suicides were officially reported under other causes of death. Had all these been noted properly, without doubt our country would show a loss at this time of fully 10,000 a year from self-destruction.

The *Medical News*[1] of New York says: "There have been 50 per cent. more suicides in Chicago in 1903 than in 1902." The same journal states that in Philadelphia for 1902 the official records showed ratio of 15 deaths per 100,000 of population.[2]

Great as is this death rate with the population at large, among insured lives unhappily the ratio is still greater.

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

1. March 7, 1903, p. 476.
2. Medical News, New York, Sept. 5, 1903, p. 466.

President Fouse of the Fidelity Mutual has shown that, while during fifty years the increase in suicide has averaged 30 to each 1,000,000 persons, this increase among insured lives has been much greater. He states: "There is little doubt, when persons are insured under a policy containing a suicide clause, such deaths are often reported as accidental."

The very elaborate and instructive tables prepared by the medical directors of the Mutual Life of New York, and published by that company, show a loss from suicide of nearly 3 per cent. of the company's total mortality.

The company with which I am connected had, in 1902, between 600 and 700 deaths, of which 20 were suicides; last year, however, the ratio was considerably more favorable.

Unfortunately, suicide is not limited to the male sex, though as a rule among civilized people men are three times as liable to self-destruction as are women.

No race nor nationality is exempt from the possibility of suicide. Civilized or barbarian, heathen, pagan or Christian, all are subject to what has been called the crime of self-destruction.

Some nationalities are far more prone to suicide than are others. The unenviable record in self-destruction is held by the people of Central Europe, Bohemians, Poles and Austrians showing the largest percentage, and Dr. Charles Lyman Greene claims this notorious eminence for the Germans.

At the other end of the list, showing least tendency to suicide, is the negro. It is uncommon for the negro to commit suicide; he is happy, easily satisfied and not, ordinarily, overstimulated with ambition; so, while as a race he shows no tendency to race suicide, as an individual the idea of personal suicide rarely ever reaches a fatal fruition. In explaining the comparative rarity of suicide among this race, O'Dea says:

"There are many reasons for this difference, but the chief is probably the indolent, self-satisfied and happy-go-lucky disposition of the negro. Despite his emotional susceptibility in some directions, the negro is a matter of fact being. He possesses the faculty of seeing most things as they are in a shrewd and sensible light. This is the noticeable feature of the objective temperament—the temperament least prone to be influenced by causes tending to suicide.

"It is neither an exclusive property of the negro nor of semi-civilized people generally, though certainly a prominent feature of the semi-civilized state.

"Only those communities or races that have made progress in civilization present a high rate of suicide, for suicide is a crime which results, in a great measure, from the personal and social influence of civilized life. Such being the fact, it needs no argument to show why the negro, who yields comparatively little to these influences, even in America, shows a tendency to suicide far short of his more advanced, but as regards the present inquiry, less fortunate brother."[3]

No age except infancy is exempt from the possibilities of suicide.

According to the United States Census Report of 1870, two suicides were little children between 5 and 10 years old; and five were persons of 90. At age 50 the maximum was reached.

The causes or motives of self-destruction are various, and they differ with different ages.

With a young child growing and oversensitive, slight causes are prone to exaggeration. As Upton says, a slight rebuke, a reprimand, envy of success of a companion, pique over fancied insult, despondency over an ephemeral love attachment, may account for many juvenile suicides. (In passing I may say with adults often no stronger motive is needed.)

O'Dea says truly that physical pain never impels a child to suicide, as it so often does adults; it is moral pain—a shock to its sentiment or to its feeling of justice.

The greatest number of suicides are credited to middle life. From young manhood upward through the years of maturity the influences leading to suicide are changing. At first during adolescence, the development of sexual instinct with its varied retinue of new feelings, emotions and ambitions; later come the strife of active competition in the busy world, the family cares and responsibilities—the hard battle with the world and the frequent defeats. There is often added the irresistible craving for artificial stimulus to keep up the struggle; there may be sickness and accident and disaster to be faced. So often is the contest felt to be unequal that mortal flesh is overpowered.

When advanced years have brought the storm-tossed sailor to less turbulent waters, other evils are felt more oppressive—incurable disease, the loss of friends or of property, the solitude of the world as realized only by the aged. Then death is a welcome relief.

So we see the impulse to suicide varies with the age, the mode of life and environment of the victim.

The means by which self-destruction is brought about varies, too, with a man's surroundings and daily experience. A druggist will naturally take a poison; a man used to fire-arms finds those deadly weapons most convenient.

How can the tendency to suicide be lessened? There are several general suggestions to this end.

In the first place, whatever can be made to diminish our fitful, feverish, strenuous life will be in the right direction. The same general influences which lead to suicide produce nervous disorders of all kinds, from vague neurasthenia to insanity. In any community where there is much insanity there will be a high ratio of suicides.

Our American strenuous life is having a disastrous result on the physical condition of our people; they are becoming physically unbalanced. And this feverish intensity and eagerness to excel begins almost at the cradle and ends only at the grave.

The poor little tot in kindergarten is ambitious to win prizes and to surpass in his little games the other infants.

The school girl must be at the head of the class, even if winning the position brings on brain fever, a stunted growth or a ruined disposition.

The fellows in college will outstrip the others in the foot race, even if it results in an overstrained heart.

The business man is bound to have a bigger company than his competitors, although to effect it he works nights and Sunday, too, and for months and years at a time he deprives his deserted family of his questionable society. And what is the use of it all? His fitful life is ended prematurely, and his neighbors are glad he is out of the way.

The fundamental mistake we make is in our misconception of the purpose of life. We exalt an inanimate thing—financial success—rather than man himself. Until we earnestly believe that man is more than raiment, our feverish, unbalanced career will move madly on.

3. Suicide, O'Dea, p. 196.

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But it is full time thoughtful people stopped the pursuit of the fleeting shadow of gold and contemplated the substance itself—humanity. In the simpler life true happiness will be found. It will be found in our efforts to develop man morally, mentally and physically; by lessening our competitions and conflicts; by increasing our sympathy and interest in our fellow; by lifting him up rather than climbing on him.

Suicides naturally are most prevalent among those people who are the most civilized and educated. Of course, this is not a consequence of education, although indirectly it is connected with it. It is consequent on the strife and competition which are a necessary part of progress as already intimated.

But just where suicides are most common, there is found an element most potent in discouraging it. I refer to religion—not any special creed nor dogma, but to the pure reverential spirit which has faith in God and His righteousness.

Men are three times as liable to commit suicide as are women; and without doubt the marked superiority of women in this respect is due to their stronger religious faith. In the doctrine of some churches the sin of suicide is made so abhorrent as to be a most powerful factor in preventing among their adherents the tendency to self-destruction. And it is rare, indeed, that a person of genuine spiritual faith, of whatver creed, deliberately commits suicide. Hence true religion is of highest importance in checking the tendency to suicide.

There is a growing inclination to show what is possibly an excessive sympathy for the suicide. I think it is a mistake to regard deliberate suicide as anything else than a crime; self-destruction is murder; unsuccessful attempt at suicide is in most communities punishable. But it is often lightly treated with something of an apology. Too great laxity in this direction is apt to be serious, and tends toward those epidemics of suicide which have occasionally shocked the world—epidemics which were only checked by severe indignities inflicted officially on the suicides' bodies.

One more factor remains to be considered—the daily press. How artistically are the descriptions given with pencil and camera! How eagerly we read the thrilling and revolting details of the case! Column after column we gloat over the horrid details; and some readers, a little warped in their nervous systems, whose impulses are like skittish horses and ready to run, are so fascinated with the story that sooner or later they imitate exactly what they have read so hungrily. Many and many a time has such a description directly led to other suicides.

A few months ago a peculiarly horrible murder was committed in a country town near Cincinnati.

The whole neighborhood was acquainted and many of the people related through kinship to the victim and members of her family, and very widespread interest in the affair was natural.

As the time for trial approached, our enterprising papers deputed their best reporters and artists for the work. One paper, a little more active than the rest, even established a private telegraph wire to the scene of the trial.

The papers were filled with the full details, descriptions, photographs of surroundings, the suspects, victim and others connected with the proceedings. The whole country about the little village was saturated with the fullest information regarding the case.

Ten days ago the trial was ended, but the terrible results of the newspaper enterprise are not yet ended. Thus far there have been two attempts at suicide among those who have carefully followed the proceedings, and a third man has been driven insane.

All of these crimes, I think, should be charged to the excessive and unwarranted notoriety given to this case through the press.

But the newspapers only publish what people want, you say. That is true. But why not give the people something better than they want. Saloons only give the people what they want, yet no public-spirited citizen advocates saloons near his home. It should be forbidden legally to relate the details of this crime, or other crimes for that matter. There should be filed for official statistical record the essential data, and the newspapers, perhaps, limited to the dry facts alone. Were this done, a great step would be accomplished in checking the growth of morbid taste in the community; and many a life would be saved which now hangs on a frail thread in the trembling hands of a possible victim on the borderlands of indecision.

Illustrative cases from the author's personal knowledge:

CASE 1.—A young man, good health and habits; ambitious and industrious; first-class surroundings; small salary, spending more than income; soon hopelessly in debt. Borrows $100, which he pays on account of premium on $10,000 policy. This secured, blows his brains out and leaves the young widow $10,000, less balance of first premium.

CASE 2.—An old planter, thriftless but ambitious; everything heavily mortgaged; takes a $10,000 policy. Soon after is found in the woods with throat cut and knife in hand. The unfortunate suicide is deeply deplored by the local papers. The lamented and distinguished citizen's policy is read over and found to contain a clause voiding it if death from suicide occurs within three years. But the family and community need the money. So the neighbors suddenly decide it is not a case of suicide, but of murder.

The next step is to find the murderer. Without much difficulty two worthless vagabond negroes are picked up and thrown in jail on suspicion. They have no friends; one easily proves an alibi, but it does no good. The family needs the money, and negroes are very cheap in that part of the country. So they are readily found guilty of murder and hanged, and the family gets $10,000, and lives happily ever after.

CASE 3.—A highly-educated German of wealth and standing in his city was found, when examined for insurance, to be the unconscious victim of an incurable disease. He was greatly shocked and fully realized the significance of the doctor's discoveries. Next day he took a dose of cyanid of potash.

CASE 4.—About two weeks ago the whole community of Macon, Ga.—in fact, practically the whole south—were terribly shocked by the suicide of a prominent citizen of Macon, a man 56 years of age, an upright citizen, at the head of large financial institutions and interested in various great enterprises in the south, reported by commercial agencies to be worth $1,000,000. Under apparently great business strain, his health failed, and finally, to the shock of the whole business world, suicide resulted.

The community was still more surprised and shocked to find that the prominent citizen died bankrupt. His estate was taken charge of by a receiver, and it is very evident he had been under the greatest financial and mental strain conceivable.

A singular feature is that he succeeded so fully in deceiving every one as to his actual financial condition. He was successful in increasing his line of life insurance in the last half dozen years until the figures reached over $1,000,000. But even this vast sum is likely to be swept away by his indebtedness and wild speculative schemes, which, by some means, he was able to conceal largely from the public.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, JULY 9, 1904.

BOARDS OF HEALTH AND PREVENTION OF DISEASE.

The importance and the scope of preventive medicine increase apace as our knowledge of the origin and transmission of diseases increases, and the duties and responsibilities of health officials—state, municipal, local—increase accordingly. In respect to certain eminently transmissible diseases, e. g., smallpox, diphtheria, scarlet fever and the like, preventive measures generally prescribed and practiced by the public-health authorities are in reasonable accord with our present knowledge of the dissemination of infection in these diseases. In the case of smallpox, for instance, preventive measures —vaccination, isolation, disinfection—as a rule are carried out with great thoroughness. In the case of no other transmissible disease of common occurrence in temperate regions, some of which diseases may be highly dangerous and fatal, is isolation of the patient carried out so effectively as in smallpox—rich and poor are unceremoniously conveyed to special hospitals, commonly known by the unattractive name of "pest-house," and often of a decidedly primitive character. There is no objection to this, but we believe that one weak point in our efforts to prevent smallpox lies in an inadequate control of vaccination. How frequently during recent epidemics did not susceptibility to smallpox demonstrate the unreliability of the physician's certificate of successful vaccination? Measures must be instituted with the view to a more direct and responsible control of vaccination than heretofore.

There are, however, several other transmissible diseases, in the prevention of which probably a great deal more can be done by our health officials than has been attempted. We have in mind such diseases as typhoid fever, dysentery, gonorrhea and syphilis. The absence of all regulations as to syphilis and gonorrhea shows conclusively enough that in certain respects real preventive medicine is still in its embryonic stage. The problems connected with the prevention of syphilis and gonorrhea merit the earnest efforts of our boards of health, especially in the large cities. Here is in a certain sense a virgin field for administrative undertakings that might bear rich fruit. In the case of typhoid fever and dysentery, the conditions are less complicated, and on the whole ripe for new and energetic measures on the part of our health authorities. We have in mind not so much the character of the water supply, concerning the importance of which in the dissemination of typhoid and other intestinal diseases the profession and the public are now reasonably well informed, and in regard to which health officials certainly need no special reminder at this time, as the prevention of all possibility of infection of water and milk by the destruction of the bacteria in question as they leave the body of the carrier, be this the patient in the acute stages of the disease, the convalescent, or the healthy individual. We now know that typhoid and dysentery bacilli may be disseminated by these three kinds of carriers, of which the two first mentioned are especially important, because they in a sense also are producers of the infecting organisms, which in the body of the sick may multiply to an extraordinary degree. In the case of dysentery it concerns the feces, but in the case of typhoid fever it concerns not only the feces, but also the urine, and in certain cases the sputum.

While it must rest to a large extent with the attending physician to see to it that infecting discharges of all kinds are thoroughly disinfected, yet the great importance of these measures in the prevention and limitation of typhoid fever, as well as dysentery, properly places them under the control and regulation of the authorities. It certainly becomes the duty of our boards of health to regulate, as efficiently as possible, the destruction of the infecting discharges of typhoid-fever patients just as much as to prescribe isolation and disinfection in such diseases as smallpox, scarlet fever and diphtheria. Why should not typhoid fever and dysentery be made notifiable diseases generally as well as diphtheria? This would place the cases under the jurisdiction and inspection of the health officers. Much good would result from explicit and authoritative instructions from boards of health in regard to the best recent methods of disinfection in these diseases. Information should be circulated concerning the dangers of contact infection, concerning the rôle of flies in spreading disease and other phases, knowledge of which would aid in prophylaxis. It is evident that energetic measures against these diseases necessitate apparatus and trained persons for the detection of bacilli in urine and feces. All sources of further infection should be placed under control as promptly in the case of typhoid fever as in the case of the eruptive diseases and diphtheria. Why not? But how few of our state boards of health are prepared to render promptly such assistance as here outlined, in the case of typhoid fever, for instance? The time has arrived when our state boards must provide themselves with fully equipped laboratories, manned by trained bacteriologists and sanitarians. We already have a few excellently organized laboratories of this kind, and we believe that many of our municipal laboratories are doing work of a high grade, but there is an impression that their measures against intestinal diseases in particular have not been remarkably progressive and energetic, as a rule. Certainly it no longer is possible for the state boards to meet their growing responsibilities by the means of a salaried secretary, unless he

has adequate knowledge and training and is not overloaded with routine duties, and a few members who receive a per diem allowance.

Eventually, this higher, trained service must be demanded of our local boards. Only by reorganization and improvement of our public-health service will the communities in general receive the benefits to which they are entitled by virtue of our growing knowledge as to the transmission of many infectious diseases. At present our measures against typhoid and other intestinal diseases (to say nothing of syphilis and gonorrhea, the responsibility for which belongs more to municipal boards) leave much to be desired.

RECENT DEVELOPMENTS IN THE STUDY OF CANCER ETIOLOGY.

In 1901 we published[1] two reviews of the cancer question, which presented most completely both phases of the matter as to the parasitic and the non-parasitic origin of malignant growths. It is interesting to note in looking them over that in the three years that have elapsed since that time, so little has developed that could be added to either side of the question, in spite of the number of workers attempting to solve the problem. To be sure, every now and then some one with the microscope has observed bodies in the tumor cells that resembled parasites, either animal or vegetable, and has considered them as either new discoveries of the specific cause, or corroborations of the work of earlier investigators, but in no instance has sufficient proof been forthcoming to convince pathologists, who must in the nature of things determine when the actual truth is disclosed before it can be generally accepted. There are plenty of interesting forms to be found in tumors, but the criticisms of artefact, cell inclusions and cell degenerations have not been easy to pass. On the other hand, about as many of the workers have made findings that have led them to question even the probability that tumors are produced by parasites, whether or not they have by their writings brought others to the same belief.

It has been known for some time that cell division in cancers assumes very abnormal methods which are quite characteristic of malignancy, for similar abnormal mitotic figures are practically absent in other pathologic conditions. This suggests that the very fundamental conditions of cell division are altered in cancer formation which, not being common to infections, would speak for some other cause, perhaps more related to the theories that involve the principles of cell multiplication, such as the misplaced embryonal matrix, or the parthogenetic division of germinal cells. Very important observations on this phase of the matter have recently been made by Professor Farmer of Oxford, assisted by other English workers, and as the principles involved promise to be the subject of much discussion in the future, an explanation of their nature and import may be in place.

Normal cell division is a remarkably consistent performance, in which certain principles are followed out most exactly. One of the most fundamental of these seems to be the separation of the chromatic elements of the nucleus into threads or chromosomes, the number of which is fixed and constant for the body cells of any given species of animal or plant. For example, the number of chromosomes in the cells of man is thirty-two, while in the lily it is twenty-four. These chromosomes then undergo certain changes in the formation of two new nuclei, each of which takes half of each of the chromosomes. In all organisms, however, there are certain cells that sooner or later differ from their fellows in having their chromosomes fuse in pairs, and so decrease the number of chromosomes to half of what they are in the other cells—in man, sixteen. This process, called reduction mitosis, produces the reproductive elements of the species, so that when one of the sex elements with sixteen chromosomes meets another of the opposite sex but with the same number, by their union we get a cell with the number characteristic for the body cell, and a fertilized ovum on the way to the formation of a new individual result. As long as these cells with reduced number of chromosomes multiply without fertilization, they continue to reproduce their own kind of cells, and their manner of division is known as homotypical mitosis. The importance of such a process to the perpetuation of species, and in this sense to cell multiplication, must be apparent, and likewise the great significance of the discovery of such a process in cancers. Professor Farmer has found that although many of the cells of a tumor exhibit the ordinary type of mitosis, certain of them in every malignant growth examined reproduce the heterotype form seen in the sexually reproductive cell series. Similar forms have never been found in benign tumors.

"The conclusion to be drawn from the above account is that, in a most important respect, some of the cells of a malignant growth have gone through a change similar to that which in normal tissues is confined to the production of the generations ending with the formation of the sexual cells."[2] Bashford and Murray have confirmed this work, and identified the same divisions in cancers of other mammals, reptiles and fish. The resemblance of these cancer cells to reproductive cells has led to the adoption of the term "gametoid" for them, leaving open for the present the question as to their identity with the true gametes (sexual cells).

The inference that may be drawn from this discovery is that in malignant tumors the starting point consists in the development of these sexual cells, which normally are found only in the reproductive tissues, and which, by fusing with one another, start a newly fertilized race of cells into existence. As new sexual cells are continually being formed in these growths there is

1. Park: THE JOURNAL, vol. xxxvii, p. 671: Senn: Ibid., p. 804.

2. Nature, Feb. 4, 1904.

no limit to the number of new breeds of cells started, and, therefore, no limit to the power of growth so long as nutrition is supplied. In the malignant tumors, Farmer has found figures that "strongly recall" the fusion seen in fertilization of germinal cells. It must be admitted that these developments fit with our observations on cancer most beautifully, and offer most attractive fields for thought and work. It is also to be noticed that the cause of the change of the cells of the body into the reproductive form is still open. Whether it consists of a chemical change leading to cell division similar to parthogenesis, or is simply a normal tendency in all cells, reached sooner or later by any of them, or is, perhaps, even stimulated by a parasite, remains to be learned.

THE PRECIPITINS.

The unexampled activity displayed in the study of the reaction products which are obtained when organic substances of the most diverse character are injected into the animal body, has already borne fruit in several ways. Among the many interesting bodies found in the "antisera" are the substances known as precipitins. It will be remembered that these were first discovered in 1897 by Kraus, who found that the serum of goats that had been treated with cholera bacteria, when added to the germ-free filtrate of cholera cultures, produced a precipitate, while normal serum, added to the same filtrate, left the latter entirely clear. The strict specificity of this reaction has been maintained by Kraus and other observers, but has lately been questioned by Norris[1] from the results of an extended research. This observer concludes that the bacterial precipitins can not be considered specific in the strict sense, although, like the sero-precipitins, they are markedly special. Cloudiness develops more quickly and the precipitate always is more copious in the homologous than in the heterologous filtrate. In low dilutions, however, an antiserum will precipitate the filtrate of other kinds of bacteria. It is suggested that by the use of appropriate dilutions the precipitin reaction may be used for detecting relationships between various bacterial groups.

The injection of other proteid substances, such as blood-serum, milk and white of egg, has been found by many investigators to give results wholly similar to those obtained by Kraus with bacterial filtrates, and in most cases the highly special nature of the reaction is strongly marked. As is well known, so much reliance can be placed on the specific character of the precipitins that the test with human blood has assumed great importance in medicolegal work. The serum of an animal that has been injected at suitable intervals with human blood or serum will cause a precipitate to appear when added even in extremely minute quantities to human serum, but produces no change, or at most a slight one, in the serum of practically all other living animals. As we recently noted,[2] the extract of mummy tissue responds to the precipitin test for human serum, thus showing the applicability of the reaction to material several thousand years old. In the blood of apes a distinct although feeble action is produced, and Nuttall, as the result of an exceedingly comprehensive investigation, has discovered the interesting biologic fact that the reaction with human precipitin-serum is notably stronger in the blood of the Old World apes than in those of the New, thus affording confirmation of the view that the former are more closely related to man than the latter. Other data warrant the generalization that the more remote the phylogenetic relationship between animal forms the feebler is the precipitin reaction, while close biologic affinities are betrayed by stronger precipitation. In addition to the employment of this test for distinguishing human blood stains from the stains produced by the blood of other species of animals, the precipitin test has been applied successfully in medicolegal practice for the safe identification of the stains produced by human semen. In this case the specific "antiserum" is prepared by injecting rabbits with human spermatozoa instead of with blood.

Uhlenhuth[3] has recently reported some important experiments which indicate that a further extension of this reaction is possible, namely, in the biologic analysis of the proteid substances found in one and the same animal. An antiserum for the yolk of the hen's egg can be readily produced in the usual way, and by the use of this it is possible, according to Uhlenhuth, to distinguish between the proteid substances present in the yolk and those in the white of one and the same egg. This author states, further, that by means of the precipitin reaction the proteid substances of the crystalline lens of the eye can be distinguished from those of all the other organs of the same animal. From his observations he feels justified in assuming that the lenses of mammals, birds and amphibia are in part composed of similar proteid substances, but that these substances are present in only minimal traces in the lens of the fish eye. It would appear that the relations existing between zoology and physiologic chemistry have rarely been brought to light so conspicuously as by the precipitin test, itself the outgrowth of studies in bacteriology and the theory of immunity.

SOME RECENT OBSERVATIONS CONCERNING BACILLARY DYSENTERY.

In the history of epidemic diseases there is much said about dysentery, both in times of peace and in times of war—especially, of course, in the latter. Naturally, it is difficult to tell at this time what special form of dysentery it may have concerned from time to time, although there is much to indicate that in many, if not most instances, it probably was what we now understand as bacillary dysentery. While much further investigation is necessary before the etiology of all dysenteric diseases

1. Jour. Infectious Dis., 1904, vol. i, p. 463.

2. THE JOURNAL A. M. A., May 14, 1904.

3. Festschr. f. sechzigsten Geburtstage v. R. Koch, 1903, p. 49.

are fully understood, yet the definite recognition as the result of modern etiologic investigation of bacillary dysentery makes it possible to carry on etiologic and epidemiologic studies with greater precision and penetration than heretofore. Thus, Conradi's[1] recent study of what he regards as a contact epidemic in Metz, in Alsace-Lorraine, appears to bring to light points of great interest in regard to the genesis and history of dysentery. In the course of two months there appeared in Metz and vicinity 70 cases of a mild form of bacillary dysentery. There were only three deaths. Conradi examined 60 cases bacteriologically, and in the feces of 56 he demonstrated the presence of virulent bacilli of the Shiga-Kruse type, which were agglutinated by immune dysenteric serum. He could find no bacilli in the blood or urine of these patients. In the clumps of bloody mucus of the early cases the bacilli were often present in pure culture; in older cases it was necessary to carefully wash the masses of mucus before cultures were made from their interior. Conradi succeeded in recovering bacilli from the feces in 27 old cases, in the second to the fourth week after the attack, cases which, without the result of the examination of the feces, would have been regarded as healthy and free from all danger. Hence dysenteric patients may remain infective for one to four weeks, and perhaps longer, after an attack. Conradi also found dysenteric bacilli in the feces of five healthy children in Metz. These facts give us some idea of the manner in which the disease may be conveyed, and also of the difficulties in the way of its control. Anent this phase of the matter it is noteworthy that extensive epidemics of dysentery have been imported by the return home, for instance, of sailors with dysentery. An epidemic in Norway, in 1859, has been traced definitely to the return of a sailor who had been treated for dysentery in Liverpool. The disease spread from the home of this sailor and attacked in all 3,992 persons, of whom 621 died (15.6 per cent. mortality).

Conradi regards the epidemic in Metz as a "contact epidemic," because the disease occurred especially in the crowded homes of the poor, in which the sanitary arrangements were very primitive. Often there were several cases in the same house, the disease beginning in children and later attacking adults.

This Metz epidemic is interesting also from the historical point of view, because it appears to be the last outbreak of a long series which can be followed for some 1,500 years. These epidemics about Metz have been made the subject of special study by Maréchal and Dideon, who describe district outbreaks in 586, 1539, 1552, 1621, 1770, 1783, 1792, 1835, 1844 and 1870. During the siege of Metz in 1870 there developed, from August to October, 19,135 cases of dysentery in the besieging (German) army and 3,500 cases in the besieged. Since then sporadic cases have occurred from time to time. There was an epidemic of dysentery in Metz again in 1888. Under these circumstances one would expect the influences of immunity to make themselves felt, and Conradi believes that this is evident from the fact that of the 70 persons concerned in the last outbreak those over 25 years of age were immigrants, not a single aboriginal inhabitant older than 25 being attacked. Certainly this adds force to the natural inference that the Metz epidemics have been outbreaks of the same disease. It would appear that in the perpetuation of a disease in this manner the harboring of bacilli in the feces of healthy individuals must be an important factor. This may help to secure the viability of the infecting agent until such time as conditions arise that are favorable for the development of more or less extensive outbreaks.

1. Festschrift z. sechzigsten Geburtstage v. R. Koch, 1903, 554.

DATE OF THE PORTLAND SESSION.

The date set for the next session of the American Medical Association is July 11-14, 1905. This date has been decided on after considerable correspondence. The holiday season for the majority of medical men is from about the first week in July to September, and the schools have by that time all closed. Most of those who live in the east will want to utilize the trip to the Association meeting as their summer vacation, and if the date were that usually adopted for the Association meeting, these would not be able to attend. In July Portland has a delightful climate, and consequently there need be no fear of hot weather.

THE TRANSMISSIBILITY OF CANCER.

In spite of the immense amount of work which has been done on cancer in the past few years, and in spite of the almost universal failure of inoculation experiments, there are still those who believe in the inoculability of the disease. It is true that from time to time there have been experimental inoculations which were successful, of late years none more so than those of Leo Loeb[1] in this country. It is to be noted that in all successful cases so far reported the transplanted tumor has been reproduced in an animal of the same species as that from which the tumor originally sprang. Up to the present there has been no well-authenticated case of the transplantation of a tumor of human origin into an animal with growth and diffusion of the neoplasm. Dagonet[2] has just reported such a case. He claims to have transplanted an epithelioma of the human penis into a rat, with the result that this animal developed tumors of a similar histologic structure in the liver, spleen and omentum. These observations have all the earmarks of authenticity and can not be disregarded, but there is plenty of room for disagreement as to their interpretation. Dagonet and the believers in the parasitic theory of malignant growths claim that the success of such transplantations demonstrates that they are due to parasites. This, it seems to us, is an illogical conclusion. Both Hanau and Loeb, who succeeded in transplanting tumors, disclaim that inoculability means infectivity, and it would be just as logical to claim that a successful

1. Journal of Medical Research, vols. vi and viii.
2. Archives de Médecine Expérimentale, vol. xvi, No. 3.

skin graft is infectious as to claim that these tumor grafts are. It seems much more likely that these very rare successes in tumor transplantation are due to unusual vitality in the cells of certain tumors rather than to the presence of an infective agent.

THE PRODUCTION OF SAFE MILK.

The report of an inspection of eighty-eight dairy farms near Chicago by the inspectors of the Board of Health is interesting reading. It shows that definite progress is being made, and indicates means of prophylaxis against the results of impure milk. The Commissioner of Health recommends that all milk for children's use should be bottled in the country immediately after being thoroughly cooled; it should then be kept on ice and delivered to the consumer within twelve hours, but milk which is thus prepared will keep longer and with far less deterioration than milk in bulk. Special warning is given against bulk milk, which may be thirty-six or more hours old. The means of enforcing improvement in the conditions of milk production are by such inspection and the recommendation of improvements and later re-inspection followed, when necessary, by the exclusion from the market of the product from a delinquent farm. Out of eighty-eight farms inspected, the milking was done under clean conditions in sixty-one, the milk was properly cooled in seventy-one, it was properly strained in sixty-six, and the water supply was good on all of the farms. The continuation of this faithful, painstaking work of inspection will be fully paid for by the saving of lives and health, as has been amply demonstrated in the past.

HUMAN BEINGS AND THE PARASITE OF TEXAS CATTLE FEVER.

The recent discovery that the so-called "spotted fever" of the Bitter Root Valley is due to an intracorpuscular blood parasite of the species piroplasma, and the added knowledge that the disease is, in all probability, transmitted by a species of tick, might lead us, on theoretic grounds alone, to suspect that Texas cattle fever might be transmitted to man. As far as we know, there has never been in this country a reported case of such a character, but Lingard[1] has recently brought up the question in India, where he has observed a case which he regards as a mixed malaria and piroplasma infection in a cattle tender. The history of the case certainly supports Lingard's views, as do the excellent illustrations which accompany his paper. If such an infection can occur in India, we can see no reason why it can not occur in this country also, and Lingard's observation should cause the physicians of our southern states to be on the lookout for such cases. It should also lead to a further study of the piroplasma causing the tick fever of the Bitter Root Valley, with a view to determining whether this may not be a modification of the piroplasma of Texas cattle fever.

1. Centralblatt für Bakteriologie, vol. xxxvi, No. 2.

NOT THE FIRST SESSION IN THE WEST.

One of our weekly exchanges, in commenting on the fact that the next session of the American Medical Association is to be held on the Pacific Coast, says "this will be the first time in the history of the Association that the far-western country has been chosen." The American Medical Association met in San Francisco in 1871 and also in 1894. Furthermore, there was a time, and that not very long since, when the Rocky Mountains were considered to be in "the far-western country," and the Association met there in 1898. By the way, these meetings in the west were noted as being decidedly enjoyable ones, and, while we need not hope for as large a gathering as at the one just held, still it will not be surprising if the attendance at Portland next year is much greater than might at first thought be considered probable. The enthusiasm of the west will bring out a large representation from that part of our country, and there are many more physicians in "the far-western country" within comparatively easy reach of Portland than there were when the Association met in San Francisco in 1894. The attractions of the west are great; the trips to the Hawaii Islands and to Alaska, beside the attractions of the western part of our country itself, such as in the Yellowstone Park, will make a trip to the west and to the American Medical Association session a summer vacation in itself.

THE PREVENTION OF NEPHRITIS AS A COMPLICATION OF SCARLET FEVER.

Nephritis is an unfortunately common and fatal complication of scarlet fever, and the careful clinician is always on the lookout for its development, meanwhile employing such measures as are best calculated to abort its occurrence. To this end he strives to keep the temperature within reasonable limits, and he lessens the demands on the kidneys, insofar as he can, by increasing the activity of the other emunctories, namely, the skin, the intestinal tract and the lungs, while at the same time he flushes the kidneys by means of water introduced into the system by way of the stomach or the rectum or the subcutaneous tissues or even of the veins. It has been suggested that a useful purpose might be subserved in the prophylaxis of nephritis complicating scarlet fever by the administration of hexamethylene tetramin, also known commercially as formin, urotropin, cystogen, aminoform, etc., and reports have been made of the good influence exerted by this drug in preventing inflammation of the kidneys in the course or sequence of the disease named. This medicament has already proved serviceable as a disinfectant of the urine in the course of typhoid fever, in the treatment of cystitis, pyelitis and bacteriuria, and in connection with operative procedures involving the genito-urinary tract. It is entirely without unpleasant effect when administered in physiologic doses, up to seven and one-half grains, even for considerable periods of time. Dr. Buttersack[1] reports the treatment with hexamethylene tetramin of a series of ten cases of scarlet fever occurring in the course of an epidemic in a small German city, and in none of which nephritis developed. He believes the good results to be due to the decomposition of the drug in the tissues of the kidney, with the setting free of formaldehyd.

1. Deutsches Archiv für klinische Medicin, vol. lxxx, Nos. 3-4, p. 356.

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Medical News.

CALIFORNIA.

Anthrax Outbreak.—An extensive outbreak of anthrax is reported among cattle at the Ria Vista, and the state veterinarian has gone to that place to attempt to limit the spread of the disease. It is feared that the prevalent floods may scatter the infection widely.

ILLINOIS.

Chicago.

More Smallpox.—After a period of quiescence, smallpox has again made itself manifest. Eight patients from this locality were sent to the Isolation Hospital recently.

Hospital Cornerstone Laid.—In the presence of an assemblage of more than 20,000, Archbishop Quigley laid the cornerstone of the St. Bernard Hôtel Dieu of the Hospitaller Sisters of St. Joseph, at Sixty-fourth Street and Harvard Avenue, June 26.

Personal.—Dr. Albert H. Hoy and family sailed for Europe July 6.——Dr. John S. Sweeney will sail from Montreal, July 14, to study European emergency hospitals.——Dr. and Mrs. Henry P. Newman have gone to their summer cottage on Walloon Lake, Mich.——Dr. Casey A. Wood sailed for Europe, July 9, summoned by a cablegram announcing the critical illness with typhoid fever of his brother-in-law, Dr. Cresswell Shearer. After graduating from McGill University three years ago, Dr. Shearer won a scholarship in the University of Cambridge and was at the Marine Zoological Station at Naples, Italy, when taken sick.

Health of the Week.—There were but 5 more deaths reported during the week ended July 2 than during the week previous, and the mortality rate remains low—only 10.75 per 1,000 annually, as compared with 15.70 for the corresponding week of last year. Measles and chicken-pox of a very mild type are generally prevalent throughout the city. A mild type of influenza is also prevalent.

Semi-annual Death Report.—For the first six months of the year the total deaths, 14,131, were 1,070 fewer than during the corresponding period of 1903, and the death rate, 14.69 per 1,000, was 10.9 per cent. less. There were 379 fewer deaths under five years of age—a reduction of 10 per cent.; but this decrease was entirely among those of the milk-feeding period. Of these there were 1,014 deaths, as compared with 1,660 last year—a decrease of 646 deaths, or nearly 40 per cent. (38.9). The quality of the milk supply and the rarity of contagious diseases account for this marked reduction. There was a 6.4 per cent. increase of the deaths among the aged, those over 60 years old. Only five of the important causes of death show increases, namely, apoplexy, 93; Bright's disease, 166; consumption, 113; cancer, 42, and violence other than suicide, 58. The following show the decreases indicated: Acute intestinal, 27; bronchitis, 134; convulsions, 30; diphtheria, 89; heart disease, 14; influenza, 63; measles, 221; nervous diseases, 171; pneumonia, 50; scarlet fever, 111; smallpox, 39; suicide, 52; typhoid fever, 107; whooping cough, 187.

Lowest June Death Rate.—The Board of Health Bulletin announces a low June mortality for Chicago, and accounts for it as follows:

> Temperature conditions during the last two months have given Chicago the lowest June mortality record, not only in her own history, but among all the great cities of the world. May averaged 57 degrees, about one degree warmer than the record of 33 years. June averaged 63 degrees, about two degrees cooler than the record. The warmer May and the cooler June were especially favorable to the health of the young, and it is the mortality among the young—those under 5 years of age—that constitutes the most important factor of the general death rate.
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> There were 1,745 deaths at all ages reported during the month—an annual rate of 11.02 per 1,000 of the population and 24 per cent. less than the average June rate of the previous decade, which was 14.52. Of this total there were 430 under 5 years of age, or less than one-fourth (24.6 per cent.). Ten years ago, 1894, there were 2,033 deaths at all ages in the month of June, of which number 959 were under 5 years of age—a proportion of nearly double (47.1 per cent.) that of June, 1904.
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> Death rates are diminishing, health is improving and the duration of human life is increasing all over the world; but in no other large city in the same proportion as in Chicago. This fact is becoming so generally recognised that the incredulity of a decade ago is now well-nigh overcome—that incredulity which found expression in the dictum of the most eminent vital statistician of the period, commenting on the death rate of Chicago in 1893, that "a death rate of less than 18 in the thousand in a city of a million population is a sanitary impossibility." The city of London has a population of nearly 5,000,000; its death rate last year was 15.6 in the thousand.
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> Chicago's diminishing death rate is due largely, if not entirely, to the conservation of the health and lives of the young—those under 5 years of age.

MARYLAND.

Personal.—Dr. Thomas C. Baldwin, Whitehall, sanitary officer of the Seventh District, Baltimore County, has resigned.——Dr. Edwin L. Beckley of Middletown was recently operated on at the Emergency Hospital, Frederick City, for gallstones.

Hospital for Naval Academy.—The Navy Department has decided that the new hospital at the U. S. Naval Academy, Annapolis, shall be located on the government farm opposite the academy, on a bluff 45 feet high, overlooking the Severn River. The original proposal to remove the bodies from the cemetery and locate it there, was abandoned.

Baltimore.

Personal.—Dr. William S. Halsted received the degree of doctor of laws from Yale University and was the principal speaker before the medical school at its commencement.——Dr. Ejnar Hansen of the University Hospital has gone to Cuba for a two weeks' trip.

Woman's College Election.—At the Woman's Medical College Dr. J. H. Mason Knox was elected president and Dr. H. Warren Buckler secretary of the trustees; Dr. Guy L. Hunner was elected professor of clinical surgery, and Dr. S. Griffith Davis acting dean during the illness of Dr. Richard H. Thomas.

Off for the Summer.—Dr. H. Barton Jacobs has gone to Newport.——Dr. John S. Fulton, secretary of the State Board of Health, has taken a cottage at Ocean City.——Dr. L. McLane Tiffany is at Manchester, Mass.——Dr. Eugene Opie is at Quebec, Canada.——Dr. Harry T. Marshall has joined the U. S. Department of Experimental Agriculture at Melville, Mont.——Dr. Francis M. Chisolm has taken a cottage at Blue Ridge Summit.

MASSACHUSETTS.

Many Charities Benefited.—The residue of the Robert E. Billings estate, amounting to about $100,000, is to be divided among twenty-seven charitable institutions, among which are the Thomas Morgan Rotch, Jr., Memorial Hospital for Infants, and the Channing Home in Boston. This estate has already contributed $2,000,000 to charitable objects.

Harvard's Commencement.—Harvard University on June 29 gave the degree of doctor of medicine to 122 men, 27 of them *cum laude*. Dr. William Osler was at the same time given the honorary degree of doctor of laws, with the following comment by President Eliot: "Anglo-American, the leading medical consultant, author, teacher and orator of this continent."

The Boston Floating Hospital resumed its work July 6. The visiting staff has been strengthened by the appointment of Dr. John Lovett Morse who, with Dr. Samuel Breck, will be on duty during July. These physicians will have the assistance of the resident physician, Dr. Robert W. Hastings, his two assistants, Drs. Huber W. Ellam and Frederick V. Hardwick, and externe Dr. E. D. Hurley, two junior house officers and six medical students. These last appointments, which are made on the nomination of the visiting staff by the board of managers this year, have attracted men from New York, Baltimore, Philadelphia and Montreal as well as from Boston.

Extended Training for Nurses.—The Children's Hospital, Boston, has made arrangements by which there will be a decided advance over its present course in its training school for nurses. Through the co-operation of Simmons College each probationer will give her whole time for four months to studies at the college and instruction in anatomy, physiology, chemistry, bacteriology and sanitation. Then for two months, at the Nurses' Home and the Hospital, these courses will be given in domestic science, cooking, and the essentials of practical work in the hospital. After this six months' period of probation will follow the regular three years' course of hospital training. Under this arrangement there will be the advantage of instruction by the trained teachers of a woman's technical college, without the accompanying hindrance of physical labor in hospital wards.

MISSOURI.

Hurt in Runaway.—Dr. Leander F. Murray, Holden, suffered a dislocation of the shoulder and a fracture of the scapula and clavicle in a runaway accident June 20.

New Kansas City Hospital.—Kansas City has had plans prepared for a new City Hospital, an ample, well-arranged, fireproof structure, the cost not to exceed $225,000.

St. Louis.

Accident.—Dr. Bransford Lewis, while riding in an automobile, June 25, was injured by a runaway horse, which jumped into the automobile, inflicting a compound fracture of the left leg, contusions and internal injuries.

Home Staff Appointed.—At a recent meeting of the board of health the appointment of the following six senior and twenty-four junior physicians to the City Hospital was approved: Seniors—Drs. P. H. Swahlen, G. H. Cottral, F. G. A. Bardenheier, Warren M. Horton, Carl Althans and F. H. Nies. Juniors—Drs. William E. Shahan, John L. Evans, Charles W. Tooker, Jr., H. J. Lenz, A. McReynolds, J. H. Woodbridge, J. Wilbur Shankland, Cleveland H. Shutt, George W. Koenig, S. T. Brownfield, H. W. Dickerson, Roy Philip Schulz, G. H. Warren, Frank B. Kirby, Walter Wilhelmy, John R. Hudson, William Louis Clapper, John H. Beckert, Louis A. Kempff, Newton M. Freund, E. D. Maloy, Harry L. Jones, Thomas E. Graham, C. W. Eastman.

NEW YORK.

New Sanitarium Opened.—The new sanitarium for consumptives at Lake Placid has been opened for the reception of poor patients. The formal dedication will take place later.

Antitoxin for the Fourth.—Dr. Daniel Lewis, state commissioner of health, offers to supply all health officers with tetanus antitoxin. Of the 70 cases of tetanus treated in 1903, 24 were reported in July. As these were directly due to Fourth-of-July celebrations Dr. Lewis urges that wounds resulting from these celebrations be immediately treated with the antitoxin, and says that if the health officers will telegraph the department a supply of the antitoxin will be forwarded at once.

Buffalo.

Hoffa in Buffalo.—Prof. Albert Hoffa of Berlin and his assistant, Dr. Spitze, have been the guests of Dr. Roswell Park.

Personal.—Dr. Lucien Howe has sailed to attend the International Ophthalmological Congress at Lucerne.——Dr. F. Park Lewis has been elected president of the board of managers of the State School for the Blind at Batavia.

Crusade Against Insanitary Tenements.—The health department, in co-operation with the charity organizations, has taken up a crusade against insanitary tenements, with the result that a number of indictments have been returned against owners, and notices to either conform to the tenement laws or empty tenements have been served.

April and May Deaths.—The monthly report of the Department of Health for April shows an annual death rate of 15.91 per 1,000. The following are the principal causes of death: Consumption, 56; cerebrospinal meningitis, 2; typhoid fever, 4; debility, 36; cancer, 22; apoplexy, 23; valvular heart disease, 32; pneumonia, 74; appendicitis, 7; nephritis, 17, and violence, 36. The total deaths for May were 504, as compared to 497 for May, 1903.

Held Under Bail.—W. F. Cook, indicted on the charge of practicing under another name, and of practicing medicine without a license, was arrested. He pleaded not guilty, and gave his name as Charles Crusins. He was placed on $1,500 bail. The prosecution was brought about by the Erie County Medical Society.——Stanley Darlington has been arrested on the charge of practicing without a license. He has not passed the state board examination. He was released on $500 bail.

New York City.

No More Pay Patients.—The board of managers of St. John's Hospital, Brooklyn, has decided that after July 1 no more pay patients will be admitted to the institution.

Floating Baths.—Fourteen floating bath houses stationed along the piers of the East River will be opened from the present time until the middle of September, and it is estimated that about 600,000 people will patronize them weekly.

Spratling and the Civil Service.—The Civil Service Board has not changed its attitude regarding Dr. Spratling, and insists that there is no rule in the laws of the commission that would authorize the transfer of a man from a state to a municipal office.

Contagious Diseases.—For the week ended June 25, there were reported to the sanitary bureau 484 cases of measles, with 31 deaths; 455 cases of diphtheria, with 35 deaths; 1 case of smallpox; 57 of varicella; 370 of tuberculosis, with 171 deaths, and 53 of typhoid fever, with 7 deaths.

Sanitarium for Hebrew Children.—This institution is situated at Rockaway Park for the purpose of giving free outing trips to poor and sick children. Last summer the benefits of the institution were enjoyed by 15,796 mothers and children, and 1,372 received medical treatment in the hospital wards for an extended period.

Health Department Transfers.—Dr. Darlington has transferred all the assistant sanitary superintendents. Dr. Walter Bensel of Manhattan has been transferred to Brooklyn; Dr. Patrick J. Murray of Brooklyn to Queens; Dr. Gerald Sheil from the Bronx to Manhattan; Dr. John T. Sprague of Richmond to the Bronx, and Dr. John P. Moore from Queens to Richmond.

Few Consumptive Street Sweepers.—Dr. Woodbury, commissioner of street cleaning, has completed his examinations of 1,872 street sweepers; 15 per cent. of the men were found to be suffering from some lung disease, but only 60 cases of consumption were found. There were 157 cases of bronchitis. Dr. Woodbury will now proceed to examine the drivers and other employes in his department.

Pasteurized Milk and the Infant Death Rate.—Nathan Straus has introduced a new feature in the depots maintained by him for the distribution of pasteurized and modified milk among the city's poor. He has set to work a corps of physicians who will give advice to mothers as to the feeding of children and the preparation of milk for infants. In 1892, when the distribution of pasteurized milk was first undertaken by Mr. Straus, there was a death rate of 96.2 per 1,000 among children under five years of age in this city; in the following year the rate was reduced to 89.2, and each year there has been a reduction until in 1903 it reached the low mark of 54.8.

Personal.—Dr. George E. Doty sailed on the *Oceanic* June 29.——Dr. and Mrs. D. B. St. John Roosa sailed on the *Kronprinz Wilhelm* June 28.——Dr. and Mrs. Charles Phelps and Dr. Francis Delafield sailed for Antwerp July 2.——Dr. Charles F. Roberts, sanitary superintendent for Manhattan, completed his thirty-sixth year as an employe of the health department and was presented with a gold medal by his associates.——Dr. Harold Bailey, an ambulance surgeon of Bellevue Hospital, is in a critical condition as the result of an accident incurred while in the performance of his duty.——Dr. Emily Dunning entered Gouverneur Hospital, July 1, as house surgeon. She is the first woman to hold such a position in the institution.

OHIO.

Lawrence Hospital Report.—During the last four years 337 abdominal sections have been performed at Lawrence Hospital, Columbus, and 198 operations not abdominal. The total of the four years' work shows 590 cases in the hospital and 212 out-patients with 7 deaths.

New Hospital Dedicated.—The new building of the City Hospital, Akron, a monument to its donor, Mr. O. C. Barber, was dedicated with appropriate ceremonies June 5. It cost more than $200,000, and is one of the finest and most completely equipped hospitals for its size in the United States. The old hospital building will be converted into a nurses' home.

PENNSYLVANIA.

Philadelphia.

Personal.—Dr. James Hendrie Lloyd has been appointed visiting neurologist to the Philadelphia Hospital.

Off for Europe.—Dr. William L. Rodman sails for England July 9.——Dr. Aloysius O. J. Kelly sailed for Europe June 25, to remain until October 1.

Pennsylvania Hospital.—During June there were treated in the general wards of the Pennsylvania Hospital 304 cases; in the receiving ward 1,808, and 4,986 visits were made to the different dispensaries of the institution.

Illegal Practitioner Found Guilty.—Thomas E. Eldridge was fined $200 for illegally practicing medicine. He was neither licensed nor registered, but had been practicing electrotherapeutics and also the administration of medicine for some years.

Charters for Charities.—A charter has been granted for the Fabiana Italian Hospital, and also to the White League, a charity devoted to combating consumption by out-door treatment. The league will depend on voluntary contributions for its existence, and will establish open-air camps and hospitals.

Crusade Against Milk Dealers.—Of the milk dealers recently arrested by State Food Commissioner Warren, 15 were tried, and 11 of this number were given a hearing, the other 4 being held in bail for trial at court. Eight of the 11 cases heard were held in bail, $500 for each charge, for trial. The accused were charged with selling milk diluted with water, and milk colored by chemical agents and preserved with formaldehyd.

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Summer Medical Inspection.—The Department of Public Health and Charities has arranged for medical inspectors to make house-to-house visitations during the summer. Their work will be directed toward saving the lives of young infants. Advice as to their care will be given, and where poverty precludes the call of a physician, medical service will be supplied by the city free. The visiting inspectors in their rounds will also rigidly urge vaccination.

Health Report.—Despite continuous warm weather sporadic cases of smallpox are present throughout the city, and seven new cases were reported during the week ended June 25. The health authorities view the situation with some concern for the coming winter, and rigid measures are to be taken to see that all persons not vaccinated are looked after by the medical inspectors in a house-to-house canvas. Typhoid fever showed a decrease of 2 cases over the preceding week, 70 cases being reported. The infant mortality is high, but the death rate in general is about the seasonal average. Deaths from all causes aggregated 395, an increase of 7 over last week, and a decrease of 71 over the corresponding period of last year. Thirty-seven deaths were in infants under two years of age.——For the week ended July 2 all classes of contagious disease show a great decrease. There were 52 cases of typhoid fever, with 11 deaths, and there were but 2 cases of smallpox reported, with 1 death. The general death rate was higher than last week. The total deaths from all causes was 533, an increase of 130 over the preceding week, and an increase of 54 over the corresponding period of last year. The number of deaths among infants due to the excessive hot weather was exceedingly large, nearly doubling that of any similar period this summer, and reaching the high number of 92, as follows: diarrhea and enteritis under 2 years of age, 67, and 2 years and over, 5; convulsions, 9; marasmus, 11.

Bequests.—By the will of Hiram Brooke, $2,000 has been left to each of the following hospitals: Episcopal, German, Jefferson, St. Joseph's, and the Friends' Asylum for the Insane; $1,000 to the Jewish Hospital, and $500 to St. Timothy's Hospital. In addition, these bequests have all been increased to $5,000 for the endowment of free beds to be established as permanent memorials to Mr. Brooke. The sum of $5,000 has been devised for a similar purpose to the following hospitals: University, Medico-Chirurgical, Presbyterian, Howard, St. Agnes, St. Christopher's, Children's, West Philadelphia Hospital for Women, Germantown Hospital, Kensington, Orthopedic, Woman's, and Polyclinic.——By the will of John L. Devereux, $50,000 has been left for the establishment of free beds in hospitals: Methodist Episcopal Hospital, $10,000 and $5,000 each to the Samaritan, St. Joseph's Presbyterian, St. Timothy's, Polyclinic, and Episcopal hospitals, and to the Home for Crippled Children.——By the will of Anna J. Sommerville the sum of $193,000 will be shared equally between the Presbyterian Hospital, Presbyterian Home for Women, the Presbyterian Orphanage, and the Presbyterian Board of Aid for colleges and academies, and three other Presbyterian charitable institutions.——In adjudicating the estate of Bridget B. McNally a balance of $22,523 is left for distribution; $475 of this amount goes to each of the following: St. Joseph's Hospital, St. Mary's Hospital, and St. Vincent's Home for Poor Children.

GENERAL.

Library Goes to Brooklyn.—By action of the Association of American Medical Librarians the Library Exchange, which has been in Baltimore at the Hall of the Medical and Chirurgical Faculty of Maryland, is now removed to Brooklyn, where it will be in future under the control of Mr. A. J. Huntington, librarian of the Medical Society of the County of Kings and editor of the *Medical Library and Historical Journal*.

Vital Statistics of Manila.—According to the monthly report of the Board of Health of the Philippine Islands and Manila for February, issued under date of March 15, the death rate for the months was 40.50 per 1,000. The total number of deaths was 709, but it is remarkable that over 60 per cent. of the deaths were of children under one year old. Of these 284 died of "convulsions," 1 death was caused by leprosy, 3 by cholera, 6 by plague, and 20 by beri-beri.

CANADA.

Ontario Vital Statistics.—The deaths in Ontario reported for May were 2,283, representing 91 per cent. of the province, and thus giving a mortality rate of 13.7 per cent. per 1,000.

Congress of French Physicians.—The second congress of the French-speaking physicians of America was held in Montreal during the past week. Dr. Pozzi of Paris was present as the official delegate of the French Academie de Medicine, and performed operations both in the Notre Dame Hospital and the Royal Victoria Hospital.

Ontario Medical Council.—The annual meeting of the Ontario Medical Council was held in Toronto last week. The following officers were elected: Hon. Senator Sullivan, president; vice-president, Dr. A. A. Macdonald, Toronto; registrar, Dr. R. A. Pyne, Toronto; treasurer, Dr. H. Wilberforce Aikins, Toronto; auditor, Dr. J. C. Paton, Toronto.

Toronto and McGill Commencements.—The annual commencements of Toronto and McGill universities were held June 10. The total roll during the past session in the medical department of the former was 721. Professor Minot of Harvard received the degree of LL.D.——At McGill the degree of LL.D. was conferred on Dr. Trudeau of Saranac Lake. Dean Roddick delivered the annual address. A farewell address was given by Dr. J. T. Halsey, who is leaving McGill for New Orleans.

Ontario Medical Association.—The twenty-fourth annual meeting was held in the new medical buildings of Toronto University, June 14 to 16, under the presidency of Dr. James F. W. Ross of that city, Dr. Chas. P. Lusk acting as general secretary. There were about two hundred physicians present from all over the province of Ontario, and the meeting was one of the most successful in the history of the association. Among the important items of medical politics touched on by the president in his annual address were the "plague" of surgery, the registering of births and deaths without compensation from the municipality, a proper revision of the relation of medical and surgical fees and the ethics of commissions. Sir William Hingston of Montreal was present and delivered an able address on cancer. The features of the meeting were a symposium on life assurance and an animated discussion on antitoxin. The following officers were elected: President, Dr. William Burt, Paris, Ont.: Vice-presidents, Drs. John L. Davison, Toronto, Geo. Hodge, London, Edward Ryan, Kingston, and T. H. Middleboro, Owen Sound; general secretary, Dr. C. P. Lusk, Toronto; assistant secretary, Dr. Samuel Johnston, Toronto; treasurer, Dr. Fred. Fenton, Toronto.

Personal.—Montreal General Hospital has several changes in its medical staff. Drs. F. S. Patch and C. W. Anderson are the only members of the house staff who will remain for another year. Dr. R. P. Campbell, formerly of the staff and at present in Germany, will succeed Dr. W. G. Turner as medical superintendent. Dr. Turner has gone to England and Germany, and until the arrival of Dr. Campbell next month his duties will be performed by Dr. R. C. Patterson. The new members of the house staff who will commence their duties next September are as follows: Dr. R. D. Forbes, anesthetist; Drs. J. L. Robinson, F. C. Fyshe, W. G. Ricker, J. A. Nutter, L. L. Reford, H. H. Kerr, H. G. Wood, physicians; Drs. A. C. Rankin and W. E. Ainley, locum tenens.——At the Royal Victoria Hospital the following appointments have been made: Admitting officer, Dr. R. King; physicians, Drs. R. Hardisty, D. McKechnie, J. C. Meakins, W. A. Lincoln; surgeons, Drs. H. Church, F. McKenty, J. Coffin, J. A. Faulkner, D. C. MacLachlan; eye and ear, Dr. L. C. Lanchland; nose and throat, Dr. H. O. Howitt; gynecologist, Dr. J. Forster; anesthetist, Dr. F. D. Charman; externe in medicine, Dr. J. R. Rogers.——Drs. R. Gibson and D. E. Maclachlan have been appointed resident accoucheurs at the Montreal Maternity Hospital.——Dr. Walker, who has been medical superintendent of the Montreal Western Hospital, has resigned, owing to ill health, and Dr. D. W. Morrison will fill the vacancy.——Dr. J. V. Anglin, Montreal, has been appointed medical superintendent of the New Brunswick Hospital for the Insane to succeed Dr. George Hethrington, resigned.

FOREIGN.

Krehl Succeeds Naunyn.—Professor Krehl of Tübingen has been invited to the chair of medicine at Strassburg, left vacant by Naunyn's retirement.

New Mexican Military Hospital.—Chihuahua, Mexico, the headquarters of the second military zone of the Mexican Army, is to have new barracks and a military hospital to cost $100,000.

Floating Sanatoria for the Poor.—An Austrian national association has been formed to collect funds and organize a system of floating sanatoria in the Adriatic on vessels built for the purpose.

Large Indian Birth Rate.—The birth rate in all the provinces of India in 1903 was 39.4 per 1,000, varying from 23.9 to 56.9 in different provinces. The death rate ran from 17.3 to 44.1, or an average for India of 31.49. Plague killed more people than ever before.

Prize for Work in Orthopedics.—The Instituto Ortopedico Rizzoli of Bologna, Italy, offers a prize of $700 for the best work or the best discovery in the orthopedic field. Competition is open to the world, but all communications must be received by the Institute before Dec. 31, 1904.

Penalty for Roentgen Ray Injury.—An attendant at the university clinic at Lemberg recently sued Dr. Rydygier, son of Prof. L. Rydygier, for injury on account of permanent disability induced by experimenting with the Röntgen rays. He was awarded $1,250 damages and a small lifelong pension.

Cuba's Health Good.—Dr. Carlos J. Finlay, chief sanitary officer of Cuba, reports health conditions excellent. It has been two years and a half since there has been a case of yellow fever and about five years since there has been a single case of smallpox. Both of these diseases have been imported, but such care was taken that not a case spread.

Bequest for Building to Prevent Premature Burial.—A German authoress recently bequeathed to the city of Breslau, Germany, the sum of $7,500, to be used for the construction of a vault where bodies should be exposed to inspection for seven days after death, to prevent the possibility of any one being buried alive. The city declined to accept the bequest.

Increasing Infant Mortality in Germany.—Dr. J. Trumpp of Berlin declared in the course of a recent address that the infant mortality in Germany far surpasses that of the neighboring countries. In Sweden only 6 to 7 per cent. of the children die during the first year, but the corresponding infant mortality in France is 15 per cent. and in Prussia 23.6 per cent., a rate surpassed by that of Russia alone.

Tuberculosis Stipend.—The Austrian authorities have appropriated a small fund to encourage and support physicians who may wish to take a practical post-graduate course in the means of combating tuberculosis. The work is to be done at the sanatorium at Alland, where free board, lodging and laboratory facilities are placed at their disposal. A special committee has the matter in charge, and will guide the investigators and use the knowledge they gain for the general campaign against the disease, co-operating with the official boards of health.

Proposed International Institute for Study of the Central Nervous System.—The International Congress of the Academies of Europe and America, held at London the last week in May, was opened by an address by Professor Obersteiner of Vienna on the "Anatomy of the Brain." In connection therewith the delegates from the academies voted to petition their governments to establish a special institute for the study of the human central nervous system. Nothing of the kind is as yet in existence. The next congress will be held at Vienna in 1907.

Resignation of Professor Hegar.—Alfred Hegar has been retired, at his request, from all his official positions in Freiburg as professor of obstetrics and gynecology, chief of the clinic for obstetrics and gynecology and of the training school for midwives. He retains the editorship of the *Beiträge zur Geb. und Gynäkologie*. The government, in accepting his resignation, conferred on him the title of privy councilor, with the predicate "Excellency." Only three or four other physicians, including Esmarch, bear this title. Hegar is now in his seventy-fifth year.

Physician Fined for Telephone Injury.—A case has recently been decided at Hamburg in which the central telephone girl sued a physician for injury to her head and ear from his persistently turning the crank in calling the central. This produced such a strong current that she was temporarily disabled. He was telephoning home in respect to an urgent case, but was told his home wire was in use—"busy, call again"—although it was brought out at the suit that his telephone had not been used during that hour. He was condemned to a fine of $7.50, or three days' imprisonment.

A Desert Spa.—An Englishwoman has inaugurated a health resort for nervous women in the Nubian desert. Each patient has a tent and native Egyptian woman to wait on her, and the diet is exclusively fruit and cereals. The resort is far from the caravan routes, and men are strictly excluded. No reading matter or distractions of any kind are allowed except painting. A brief description of the scheme is given in the *Allg. med. Ct.-Ztg.*, which adds that there is also a "color cure" combined. Each tent has a glass window, the color selected being the one found to exert the most favorable influence on the patient.

Penalty for Physician and Druggist.—A patient of Dr. Tauchon of Paris was given a prescription ordering 10 gm. of sodium arseniate and 5 gm. of strychnin, followed by the words: "Pour une pilule No. 20." The prescription was put up by a pharmacist's undergraduate clerk, who supposed the above instructions meant: "Make 20 pills like above," instead of which the physician meant to divide the amount into 20 pills. The patient took one of the pills and was seriously poisoned. He sued the physician and the pharmacist for $5,000. The court awarded him $100 damages, and condemned the physician to a month in prison and a $20 fine, and the pharmacist to six days' imprisonment and the same fine. The clerk was not sentenced in any way.

New Discoveries of Radioactive Substances.—Two German physicists, who have for years been engaged at Wolfenbüttel in research on cosmic electricity, Elster and Geitel, have recently published their discovery that the air near the ground and the ground itself possess radioactive properties. They are especially marked in the mineral mud, fango, used for therapeutic purposes. By extraction with hydrochloric acid the scientists were able to isolate the elements to which the radioactivity is due, and by combining them with barium chlorid were able to increase the radioactive properties to 160 times those of the substance whence they had been derived. The mixture behaved like some indifferent salt with which a little radium bromid has been incorporated. It is further announced from Denmark that cryolite, found in Greenland, is also a radioactive substance.

Condemnation of Physician for Scientific Investigation.—The German law in regard to homosexual practices is vague and defective. Certain physicians took the matter up and organized what they call "the scientific-humanitarian committee," their purpose being to collect data on which to base the revision of the law and ensure its enforcement. Dr. Magnus Hirschfeld of Charlottenburg is chairman of the committee, and, in accordance with the resolutions adopted, he sent out about eight thousand circulars, distributing them among the students of the school of technology, asking for information on the subject, after stating the important scientific purpose of the research. The recipients were asked to reply on a postal card, without signature or writing of any kind, merely underlining certain printed figures, which would afford the desired information. Out of the eight thousand recipients, six students felt insulted by the request and instituted legal proceedings against Dr. Hirschfeld, accusing him of sending them immoral literature. Two of the students withdrew their complaint, but the other four carried it into the local court, and the case resulted, May 7, in a fine of about $50 for Dr. Hirschfeld, or twenty days' imprisonment. The judge expressed due regard for the high motives which had inspired his action, but was of the opinion that the circular card might easily do harm to the morals of young people, and stated, further, that the law places the personal rights of the citizen above matters of purely scientific interest. "Otherwise," he added, "such question blanks might be distributed to the inmates of young ladies' seminaries, or any one could accost a stranger on the street with these drastic inquiries, the answers to which render those replying in the affirmative liable to criminal proceedings." The postal cards received indicate that homosexual practices are widespread among the German male population—possibly to an average of 2 per cent.

A German Medical Journal Sued for Libel.—One of our German exchanges has recently been sued for damages by a homeopathic physician, practicing in Switzerland, on account of a reference to him as "the in Switzerland well-known charlatan (Kurpfuscher) and homeopath." He wrote to inform the periodical in question that he was a duly-qualified physician, a graduate of Zurich, and a statement to this effect was published in a following issue. At the same time he instituted legal proceedings against the editor, and the suit recently came to trial: Dr. Mende-Ernst of Zurich *versus* Dr. Spatz, responsible editor of the *Münchener medicinische Wochenschrift*. One of the experts was the leading medicolegal authority, Geh.-Rath von Winckel. He testified to the effect that during the hundred years since the foundation of homeopathy, physicians and colleges have deliberated on its claims and have unanimously decided that its premises are absolute nonsense—unsense. He quoted J. Müller, Virchow's master, who used to say that the principles of homeopathy seemed to him about the same as if, after a man had been run over by a wagon, he

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should be treated by having a toy cart run back and forth over him three times. The expert then reviewed Hahnemann's principles, pointing out the way in which homeopathy was utilized to deceive the public and for charlatan purposes, adding: "We physicians can only regard with a pitying smile those who have taken a regular scientific medical course and then devote themselves later to homeopathy. In our eyes they have ceased to be scientific medical men." The expression "charlatan" ("Kurpfuscher") is certainly not synonymous with "homeopath," but scientific medicine can only declare that homeopathy does not exist for us; that it not only does not accomplish anything, but is liable to do much harm. Spatz remarked that it was inconceivable to him how a man who had studied medicine could, from conviction, become a homeopath. A student who had attended lectures on pathologic anatomy and assisted at autopsies could not possibly say that the causes of disease are merely that the purely intellectual vital force is dynamically out of tune. "If a physician can ever be called a charlatan without penalty—and in Germany there is legal precedent for so doing—then it is the homeopath." The testimony of the other scientific expert was to the same effect—that between scientific medicine and homeopathy there is a deep gulf, and that scientific physicians rank homeopaths with charlatans. The Bavarian government recognizes homeopaths, and the designation of "charlatan," as applied to a regularly-graduated homeopathic physician, was not allowed to go unpunished. The editor was fined $37.50 and costs, and ordered to publish the decision of the court in three of the daily papers. The Wochenschrift comments that the publicity given to the affair and to the statement of the stand of scientific medicine in respect to homeopathy, can not fail to enlighten the public somewhat in regard to the latter. All the annoyances of the suit will be more than compensated, it adds, if it should make any physician contemplating turning to homeopathy pause before taking this fatal step. The editor acknowledged from the start that he had no personal knowledge of Dr. Mende, and had been misinformed in regard to his standing.

LONDON LETTER.

The British Medical Association and Medical Defense.

A prolonged controversy as to the advisability of the British Medical Association adding medical defense to the other benefits of membership is being waged. The great advantages of medical defense associations is amply shown by the success of the two associations which exist—"The Medical Defense Union" and "The London and Counties Medical Protection Society." For an annual payment of $2.50 these societies insure a physician against the legal expenses which may be incurred in defense of actions brought against him in his professional capacity, providing him with attorneys. As the British Medical Association is by far the most important medical organization in the country the scheme is proposed of merging the two medical defense societies in it and undertaking medical defense. The advantages of the association with its income of $200.000 undertaking the work are obvious. But equally obvious are the objections of the existing defense societies to committing suicide. They point out that it would be absurd for successful prosperous societies which have acquired great experience in medical defense to wind up. But the greatest objection is that the British Medical Association includes only half the physicians, and that a large proportion of the members of the defense societies do not belong to it. Thus of the 5,800 members of the Medical Defense Union 1,600 do not belong to the association. It is felt that to desert the latter and to wind up the union, compelling them to join the British Medical Association and pay an additional fee of $5 a year if they wish to still enjoy medical defense, would be an injustice. The union has, therefore, practically unanimously declined to merge itself in the British Medical Association. The latter body, under the circumstances, does not appear likely to undertake medical defense on its own account.

Detection of Ankylostoma Infection.

A report has been made to the government by Mr. A. E. Boycott on an improved method of ascertaining the presence of ankylostoma infection by examination of the blood of the workers in suspected mines. The report has been published as a parliamentary paper. Mr. Boycott explains at some length the difficulties which impede the discovery of the worm or of its ova in the feces. He points out that one of its constant effects is to increase the number of eosinophile leucocytes in the blood. In normal blood the prpportion of eosinophiles varies from ½ to 5 per cent. of the total leucocytes. When there is more than 5 per cent. there is a probability of the existence of ankylostomiasis—a probability which would be raised to practical certainty by such an amount as 8 per cent.

Vital Statistics in 1903.

The Registrar General's annual summary of the vital statistics of London and other large towns for 1903 has been issued. The seventy-six great towns in England and Wales that are included contained an estimated population in the middle of the year of 15,000,000 in round numbers. The birth rate was 29.7 per 1,000, as compared with 30 in the preceding year, thus further exemplifying the falling birth rate, which has frequently been referred to in THE JOURNAL. The death-rate was 16.3 per 1,000. Infantile mortality measured by the proportion of deaths under one year to births registered averaged 144 per 1,000. Smallpox was the cause of 415 deaths; measles, of 5,486; scarlet fever, of 2,160; diphtheria, of 2,971; whooping cough, of 4,922; "continued fevers," mainly typhoid, of 1,742; diarrhea (including dysentery), of 16,613. In London the proportion of persons married in each 1,000 of the population was 17.4, and the birth rate 28.4. This is the lowest birth rate yet recorded for London, and is 0.1 per 1,000 below that for the preceding year. The death rate of London was 15.7, the lowest on record, and lower by 2 than that of the preceding year. The average annual death rate in the preceding decennium was 18.9.

Cancer Research.

The first report of the Cancer Research Fund of the Royal Colleges of Physicians and Surgeons has been issued. It consists of three papers, in which are recorded the investigations conducted by Dr. Bashford and Mr. J. A. Murray. The first is on the Zoological Distribution of Cancer. Specimens obtained from the most diverse species of animals are described—the cow, dog, horse, sheep, pig, mouse, cat, hen, salamander, gurnard, trout. The disease, therefore, has been found in both wild and domestic animals. In the second paper the "Transmissibility of Cancer from One Animal to Another" is discussed. The recorded attempts to transmit normal tissues, embryonic tissue and tissues from the reproductive organs have been negative. On the other hand, the successes of Jensen and Borrel in transplanting carcinoma from mouse to mouse were repeated in the cancer research laboratory with material obtained from Professor Jensen. With this material 259 inoculations were made with a successful result in 25 to 30 per cent. of the cases. Exposure of the tumor tissue to a temperature of 37 C. for twenty-four hours rendered all the results of transplantation negative, and breaking down of the tissue in a mortar had a similar effect. In the third section of the report the cytology of malignant growths is considered. The work of von Hansemann is examined, and it is shown that although he described the hypochromatic nucleus in carcinomata, yet his observations did not include what is chiefly important in those of Farmer, Moore and Walker—the diminution of the chromosomes in exactly the same way as in reproductive cells. The occurrence of this heterotype mitosis was confirmed. The number of cells exhibiting this mitosis varies in different tumors, and no direct relation to the degree of malignancy has been established. The mitoses in the growing margin are uniformly of the somatic type, and where there is rapid degeneration may be very difficult to find. These facts militate strongly against the value of heterotype mitosis in the diagnosis of cancer. Exception is taken to the view of Farmer, Moore and Walker, that cancer consists in a transformation of the normal adult tissues into modified reproductive or "gametoid tissue." The negative results of testis and ovary transplantation are held to show the inadequacy of this exolanation. Certain nuclear figures seen in some of the carcinomata are considered evidence that a kind of conjugation takes place among the cells. If this be so a new cycle would be started thereby, and the independent growth of malignant tumors and their metastases would be explained. Whether such conjugation is the initial phenomenon of cancer is a matter for future investigation.

Miners' Phthisis in the Transvaal.

The fact that the miners in the Transvaal are liable to contract phthisis has recently attracted a good deal of attention, and a commission was appointed more than eighteen months ago by the government to inquire into the causes of the disease. The death-rate in the mines is alarmingly high. Among the rock-drill miners of the average age of 35, it reaches the enormous figure of 70 per 1,000. The mortality of native rock drillers is less—42 per 1,000. This may, perhaps, be explained by the fact that the natives do not work continuously, and that many of them are lost sight of and return to their

kraals to die. The Transvaal Medical Society has recommended as a method of prophylaxis that dry mining should, as far as possible, be converted into wet mining, and the commissioners have suggested that jets and sprays of water would, in combination with good ventilation, prove an efficient preventive against dust.

PARIS LETTER.

Quack Advertisements in France.

Physicians in France have had cause to complain of competition by quacks who advertise in or prescribe by means of the daily press. At a recent meeting of the Society of Legal Medicine Dr. Rocher reminded his colleagues that a hundred years ago Dubois, the prefect of police, had sent to the newspapers a circular which provided that all medical matter in newspapers be subjected to the control of the police. A century later Herbaux, procurator of the republic, has ordered an inquiry to be made as to the lawfulness of certain advertisements which are being published in the daily papers. During the last few months the "Electro Vigor of Dr. McLaughlin," an advertisement of electric belts, has been published on the last page of one of the best-known daily papers. The syndicate of physicians of the Seine took up the matter and wrote to the newspapers who publish these advertisements, and the answers obtained were in one case that the doctor was ill and absent for an undetermined period, and in another that there was no doctor. It is quite possible that under such conditions the newspapers may be prosecuted. The law in France on illegal practice of medicine is quite strict, a fine of $20 to $100 being imposed for the first, and imprisonment for a second offence.

New Smallpox Hospital at Aubervilliers.

The municipal council of Paris has approved the plans for reconstructing the smallpox hospital of Aubervilliers. About 2,000,000 of the 45,000,000 francs reserved for transforming the Paris hospitals will be used for this purpose. About a million francs will also be spent on transforming the St. Louis Hospital, more than half a million francs being used to build new quarters for the nurses. The condition of the latter is steadily improving, though the wages they receive are quite insufficient, varying from $6 to $18 a month, the head nurses of a ward receiving at the most from $16 to $18.

Galvanism in Muco-Membranous Enteritis.

In a recent number of the *Presse Médicale*, No. 27, Dr. Zimmern described the excellent results he had obtained in muco-membranous enteritis by the use of the galvanic current applied externally to the abdomen. The treatment consists in applying the two electrodes in the right and left iliac fossæ, and using a current which starting from 0 is slowly and gradually brought up from 60 to 150 milliampères, then as slowly reduced to 0. The direction of the current is then reversed. Each treatment lasts about 20 minutes, and is repeated three or four times a week. No special attention is paid to the diet, though highly spiced food is of course forbidden. All enemas or cathartics are strictly prohibited with the following exceptions. If there is much constipation, two spoonfuls of castor oil are given every five days, or a large lavage of the intestine if the castor oil does not produce the desired effect. Every day a very small enema of cold water (100 grams) is given so as to start the intestinal reflex of defecation, which is more or less dulled by the lack of sensibility of the mucous membrane. According to Zimmern the results obtained are not so much due to an action on the muscular coating of the intestine as to action on the general circulation of the intestine. Out of 30 patients treated in this manner only 2 were refractory to the treatment, and 20 were absolutely cured, the remaining 8 being only ameliorated. Dr. Delhenn, another specialist in this line, described the results obtained by the galvano-faradic treatment in 53 patients, 46 cases were very much ameliorated by the treatment, and 36 remained cured after a year.

Treatment of Epistaxis Due to Hypertension.

In the *Presse Médicale*, No. 28, Dr. Martinet draws the attention of the medical public to the frequency of epistaxis in old men suffering from hypertension. It comes on generally during the winter, after some such cause as a heavy meal, a prolonged effort, or a walk against the wind. All the signs of hypertension are generally observed, such as hard, vibrating pulse, exaggeration of the second sound at the base of the heart, congestion of the face, and headache. Spitting of blood may also take place, due to a slight hemorrhage from the lungs. Dr. Martinet recommends as treatment, rest, hot mustard footbaths, and cold compresses on the head. The diet should be light, and the epistaxis should be stopped only if it is rather too abundant. The nostril can then be tamponed with some gauze packing dipped in a solution of antipyrin or hydrogen dioxid. When the pulse is below its usual tension, small quantities of digitalis and ergot may be administered, and it should be borne in mind not to employ strong vaso-constrictive drugs, such as adrenalin, which do much more harm than good, nor should even digitalis and ergot be given in strong doses.

Correspondence.

The Scope of State Sanatoria.

BOSTON, MASS.

To the Editor:—The editorials of THE JOURNAL, as now conducted, always merit the thoughtful attention of the profession at large. In your edition of May 21, however, one appears, the sentiments of which are so at variance with the ideas of those who have had much experience with sanatorium treatment of phthisis that I feel impelled to send my protest, lest silence from those most interested be interpreted as consent to the views given.

Just so far as the article advocates the establishment of hospitals for the advanced and hopeless cases within easy access of our great cities and towns, I am heartily in accord with it. At every opportunity, whether public or private, I have urged the pressing necessity of such establishments. I have even gone so far as to oppose the further enlargement at present of the large institution at Rutland, which is not intended for the far-advanced cases, believing that as the sanatorium is adequate for the present for the number of hopeful cases applying for admission, our energies in Massachusetts should be directed now toward caring elsewhere for the great number of hopelessly ill patients.

When, however, by the purport of the article I see a distinct spirit of opposition to the present rapidly growing sentiment in favor of sanatoria, and in particular for the one proposed in Ohio, for the incipient and hopeful cases, I must raise my voice in most emphatic protest. I must challenge, moreover, many of the statements made in support of these sentiments as being in my opinion quite wrong. With the experience of thirteen years at the Sharon Sanatorium, a small private institution for poor women only eighteen miles from Boston, and with the still larger experience during the past six years as attending physician to the State Sanatorium at Rutland, I can not express too strongly my conviction that the trustees, in their decision at the outset to make the sanatorium a place where poor people could have the opportunity to get well, or at least to so far ameliorate their condition as to become wage-earners again, took a grand step forward in the battle against tuberculosis. Had this decision, which was largely due to the wise foresight and determination of Dr. Alfred Worcester of Waltham, Mass., who was formerly one of the board of trustees, not been made, it would have been impossible to accomplish the favorable results at Rutland, which have attracted the attention of the medical profession with the consequent great impetus which has been given to the sanatorium treatment of phthisis by the state in localities long thought to be unfavorable for the cure of the disease. This is said without the least desire to arrogate special praise to those at present in charge. They have merely followed out methods and principles laid out long ago by others, but toward which for various reasons there has been shown until recent years the most extraordinary apathy by the profession and the community generally.

The statement in the editorial that a state sanatorium limited to the care of hopeful cases while excluding those which are far-advanced "will do nothing whatever toward stamping out the contagion from the community," I regard as utterly misleading and unjustifiable. Far greater than the beneficial effect on individual cases is the almost limitless influence which such institutions have as schools for teaching the simple but essential laws of hygiene. Each patient acts as a missionary among his friends and family when after receiving convincing proof of what can be done for the prevention as well as the

cure of disease he goes out again to teach others from his own experience, and from what has been taught him during his stay. Of the truth of this we get almost daily and convincing proofs. We can preach hygiene in our medical schools and journals and elsewhere endlessly, but without one thousandth part of the effect that is produced in the community by showing as tangible proofs the patients who have been under sanatorium treatment.

Again in the editorial it speaks of the advanced cases as being greater sources of infection than the ambulant and possibly incipient cases, a statement to which I take strong exception. Dr. Knopf, in a recent paper, and others, speak of the even greater danger to the community from the ambulant cases from the fact that in their free communication with others everywhere they are liable to spread disease even more than those confined to their beds. To base an argument then on such grounds would seem to be absolutely unjustifiable.

We come now to the statement that "there is no positive proof that the sanatorium treatment of incipient tuberculosis is measurably more effective than the open-air treatment at home when this is *scientifically* and *thoroughly applied*." (The italics are mine.) In reply to this I can only say that from my own experience I find the exact opposite to be true. While acknowledging the admirable work accomplished by some physicians, notably Dr. Charles Millet of Brockton, Mass., in teaching some of his poor patients in their country homes to use the fresh-air treatment, I can only say that I have found it impossible as a rule to make patients adopt the measures which are absolutely necessary for "scientific and thorough treatment," until they have had instruction in a sanatorium. Ignorance and lack of persistence constantly stand in the way of success in the vast majority of cases, whereas the semi-military discipline of a properly regulated sanatorium where a patient is told what to do and what not to do at a critical time, is something which can not be accomplished at home at all in the same degree. What shall be said, moreover, of attempts to cure at home the hundreds and thousands of patients who live in the vitiated atmosphere of cities? While much can doubtless be done to help in this direction, no one acquainted with the true facts would be so deluded as to make favorable comparisons of results in such cases with those who have had the advantages of sanatorium treatment in properly selected places.

The general physician, it is true, can "do wonders for his tuberculous patients," but I regret to say it is constantly brought to my notice that there is a lamentable ignorance shown by many practitioners as to what constitutes an "incipient" case, and also an equally deplorable lack of knowledge as to what "fresh-air treatment" really means.

It is no uncommon occurrence now for applicants with definite symptoms of incipient disease to appear at Rutland at the suggestion of former patients rather than that of the attending physicians, who have either failed to make a correct diagnosis, or, for reasons best known to themselves, have failed to advise without delay what former patients know through experience to be the best and most speedy method of regaining their lost health.

Believing as I do in the sincerity and honesty of purpose of the editorial, I greatly deplore its attitude; for should it prevail through what I believe to be an incorrect knowledge of the subject it would do infinite harm, not only to the endeavor to establish a suitable state sanatorium in Ohio, of which special mention is made, but in general to the cause for which we all are striving.

I believe that you will accept this frank criticism in the friendly spirit in which I send it and that you will give it space in THE JOURNAL. VINCENT Y. BOWDITCH.

The Medical Gold Brick of Chicago.

CHICAGO, July 2, 1904.

To the Editor:—A worthy gentleman of philanthropic proclivities, a promoter who is alive to the interests of humanity—which is "I," writ large—has discovered that Chicago is suffering from a lack of hospital accommodations. Incidentally he has discovered that there are a few persons who have escaped the net of the hospital grafter and are still foolish enough to employ physicians and to pay them for their services. Bent on remedying this deplorable state of affairs, he is now in Chicago for the purpose of organizing a "co-operative hospital," run on the principle of that much-to-be-anathematized institution, the London Medical Club. The members of the proposed co-operative hospital are to pay a yearly "membership" fee, and the medical staff is to be "paid for its services." The principal alleged *raison d'etre* for the new scheme is the need of providing accommodations for those "too poor to pay a physician, but who can pay something for hospital accommodations." This tearful plaint of the promoter, conjoined with the staff "salary" argument, has already enlisted the sympathies of a number of prominent medical men, who, not content with the grafting that they have, are eager to fly to grafting that hitherto they knew not of.

It is to be hoped that the profession will antagonize this new scheme for imparting a veneer of respectability to dead-beatism. Should such an institution be started, the duty of the medical profession will be to oppose its operation in every possible legitimate way. More than this, the stamp of disapproval should be put on every physician who connects himself with the scheme in any way whatsoever. When consultation and operation fees cease to travel toward such men, they may learn that the selfishness of the individual can not be permitted to obscure that spirit of professional altruism which should imbue the system of every man who poses as a leader in medicine and surgery. The profession is traveling toward pauperism pretty rapidly as it is; the new scheme would be but the beginning of the end. The day is not far distant—unless conditions change and the profession awakens to the danger that confronts it—when the 25-cent fee of the London Medical Club will be too close for comfort. In thus antagonizing the proposed medical gold brick scheme, I am simply following the line of procedure which I mapped out to the promoter, who laid his plans before me and invited me to join the enterprise on a profitable basis. He asked me what attitude the Chicago Medical Society would likely assume. I replied: "I do not know; but in so far as my influence will count, it will be war to the knife." In closing, I wish to remark that the co-operative hospital scheme apparently contemplates a chain of the new graft including every large city in this country.

G. FRANK LYDSTON.

A Fourth Cataractous Family.

WHEELING, W. VA., June 22, 1904.

To the Editor:—In THE JOURNAL, March 4, 1899, I reported "A Third Cataractous Family." I wish now to record what would seem to be another instance of hereditary tendency to cataract. On May 31, 1904, assisted by Dr. Bessie Hewetson, St. Clairsville, Ohio, who afterward sent me these notes, I removed a mature cataract from the eye of R. H. A., aged 74 years. His sister, now in her 82d year, has been blind in one eye from cataract for several years. His father died at 77, and had been blind from cataract for several years. One eye was operated on one year before his death. A sister of his father was also blind from cataract for several years before her death. She lived to be about the same age.

JOHN L. DICKY, A.M., M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PREPARATION OF VOLUMETRIC SOLUTIONS.

BUFFALO, N. Y., June 23, 1904.

To the Editor:—How can I prepare a decinormal solution of sodium hydroxid for urinalysis without the tedious method of standardizing hydrochloric acid gravimetrically?

A. R. SATTERLEE, M.D.

ANSWER.—Recent chemical research has demonstrated the practical value of the use of potassium bitartrate instead of acids for

this purpose. The purified potassium bitartrate (cream tartar) must be used, and this may be obtained from dealers in chemical reagents. The tenth-normal sodium hydroxid volumetric solution is prepared as follows: Introduce 0.934 gm. purified potassium bitartrate into a 300 c.c. flask, add 100 c.c. distilled water, and boil until dissolved. Add to this about 5 drops of phenolphthalein, test-solution, and then cautiously add from a burette the sodium hydroxid solution, frequently agitating the flask, boil the liquid and toward the end of the operation reduce the flow to drops until the red color produced no longer disappears on shaking, but only a pale pink tint remains. The sodium hydroxid solution is prepared by dissolving 7.5 gm. sodium hydroxid in sufficient distilled water to measure at 25° C. (77° F.), about 1,050 c.c. Note the number of c.c. of the sodium hydroxid solution consumed, then dilute the remainder of the solution so that exactly 50 c.c. of it shall neutralize 0.934 of potassium bitartrate. If, for example, 40 c.c. of the original solution of sodium hydroxid were required for neutralization, then the remaining solution must be diluted in the same ratio, viz., 10 c.c. to each 40 c.c., and another test made with the finished diluted solution for control, and if necessary a new adjustment made so that each 50 c.c. will exactly neutralize 0.934 potassium bitartrate.

A QUESTION OF TRESPASS.

———, Wis., June 29, 1904.

To the Editor:—Five years ago, at the request of a physician here, I came to this town to take charge of her practice during her illness. Several families who had never employed her employed me, and when I was about to leave urged me to stay and open an office. I refused, saying that, in the circumstances, it would not be right. This spring, five years later, I received a letter informing me that two physicians of the town had died, and urging me to fill the vacancy thus made. After carefully considering the matter, I moved here. I have called on the physician in question, as well as on the other physicians of the town, but she seems to resent my presence and tells people I have knowingly done an unprofessional thing. Who is right? O.

ANSWER.—We consider that our correspondent had a right to settle in this town, and committed no breach of ethics in so doing.

ST. LOUIS FAIR.

U. S. GOVERNMENT BUILDING, WORLD'S FAIR,
ST. LOUIS, July 4, 1904.

To the Editor:—Permit me to add to the medical attractions at the Fair, as published in your issue of July 2, page 42, these exhibits in the U. S. Government Building: That of the Public Health and Marine-Hospital Service, under the Treasury Department; that of the Bureau of Animal Industry, and that of the Division of Entomology, where specimens of anopheles and culex may be seen living. In the Palace of Mines and Metallurgy is an exhibit showing graphically the percentage composition of U. S. mineral waters. Beside these, there are about a dozen premature infants in incubators on the Pike, which may be seen for a quarter, and *expert* fitting of glasses at *fancy prices* in every building of any importance by *opticians*. MARCUS W. LYON, JR., M.D.

BOOKS ON TESTING MILK.

BISTERVILLE, W. Va., June 27, 1904.

To the Editor:—Please inform me if there is a book out, and, if so, who are the publishers, on testing cow's milk for health departments of cities? VICTOR HUGO DYE.

ANSWER.—Leffman & Beam. "Analysis of Milk and Milk Products," published by P. Blakiston & Co., 1012 Walnut street, Philadelphia. Another book is by Farrington and Woll, "Testing Milk and Its Products," or Gerber's "Chemical and Physical Analyses of Milk." These may be purchased from any first class book house.

COEDUCATIONAL MEDICAL SCHOOL AT PORTLAND.

M. W. L.: Yes, there is a medical school at Portland, Ore., which admits women—the Medical Department of the University of Oregon.

Marriages.

LOUIS J. HAAS, M.D., to Miss Clara Reid of Minneapolis, Minn., June 22.

OTTO ROHRLACH, M.D., to Miss Florence Neumann, both of Chicago, June 8.

J. W. GALVIN, M.D., to Mrs. Mary F. Hayes, both of Louisville, Ky., June 22.

PAUL T. LYON, M.D., Ridgway, Iowa, to Miss Ethel K. Amos of Chicago, June 11.

KIRK SHAWGO, M.D., Piper City, Ill., to Miss Myra Wilcox of Quincy, Ill., June 15.

CAPOLIS L. BLUE, M.D., to Miss Nettie Clowser, both of Tocsin, Ind., June 8.

FREDERICK G. STARLING, M.D., to Miss Ruth Eloise Phillippi, both of Omaha, Neb.

EMIL REITH, M.D., to Miss Emma Elizabeth Brown, both of Altoona, Pa., June 22.

FRANK LITTEN, M.D., Austin, Texas, to Miss Mellie Reese of Waco, Texas, June 15.

JAMES MCMANUS, M.D., Cairo, Ill., to Miss Alice Cleary of Memphis, Tenn., June 15.

LEVI E. RECK, M.D., Piqua, Ohio, to Miss Alma Bishop of Tippecanoe, Ohio, June 15.

JAMES ALBERT FULTON, M.D., to Miss Rose C. Flack, both of Kansas City, Kan., June 23.

J. B. SHERROD, M.D., Colfax, Iowa, to FLORENCE BROWN, M.D., of Iowa City, Iowa, June 2.

GEORGE MCCULLOUGH, M.D., to Miss Jessie M. Von Bessler, both of Troy, Ohio, June 22.

LUTHER G. BUNKER, M.D., to Miss Emily R. Plaisted, both of Waterville, Maine, June 22.

JAMES TUNSTALL INGE, M.D., to Miss Helen Grant Jones, both of Mobile, Ala., June 1.

EDGAR GILMORE GIVHAN, M.D., to Miss Lena Parham Peterson, both of Montevallo, Ala.

EUGENE B. CLARK, M.D., to Miss Deva McClung, both of Chattanooga, Tenn., June 15.

ALBIN B. PHILLIPS, M.D., Clear Lake, Iowa, to Miss Agnes Allen of Ames, Iowa, June 22.

EDWIN M. TROOK, M.D., Marion, Ind., to Miss Olive Bernard of Burlington, Iowa, June 20.

EMILE L. DELAUNEY, M.D., to Miss Alma L. Calkins, both of South Omaha, Neb., June 29.

ERNEST W. POTTHOFF, M.D., Chicago, to Miss Nellie Gertrude Slocum of Oak Park, June 25.

EDWARD W. CANNADY, M.D., East St. Louis, Ill., to Miss Ida Rose of Columbia, Ill., June 15.

JOHN A. WILKINSON, M.D., to Miss Hattie Marie Kelly, both of Hale's Corners, Wis., June 21.

LOVING FLINT HUBBELL, M.D., Sidney, Ohio, to Miss Agatha Hollihan of Lima, Ohio, June 28.

WILLIAM T. MCARTHUR, M.D., Los Angeles, Cal., to Miss Mary Smith of York, Pa., June 16.

JOSEPH E. RIDENOUR, M.D., Jesup, Iowa, to Miss Alice Durand of Dubuque, Iowa, June 15.

ADRIAN E. FAUVE, M.D., Indianapolis, Ind., to Miss Mary Etta Julliard of Washington, D. C.

DAVID R. ULNER, M.D., Alexandria, Ind., to Miss Blanche Trimble of St. Louis, Mo., June 28.

SHERMAN E. WRIGHT, M.D., Chicago, to Miss Katherine Alice Best of Minneapolis, Minn., June 29.

JOSEPH A. DORGAN, M.D., Lawrence, Mass., to Miss Anna J. Gookin of Lowell, Mass., June 8.

HELEN S. WILLIAMS, M.D., to George Owen Nagle, both of Chicago, at Memphis, Tenn., June 8.

JESSE H. ROBBINS, M.D., Sioux City, Iowa, to Miss Mary Whittier of Whiting, Iowa, June 16.

JOHN A. RUSSELL, M.D., Boulder, Colo., to Miss Ellen Gertrude Ross of Golden, Colo., June 15.

CLIFTON M. WAUGH, M.D., Toluca, Ill., to Miss Mamie McMaster of Mount Ayr., Iowa, June 22.

JOHN P. STEWART, M.D., Attalla, Ala., to Miss Theodosia Wickliffe of Louisville, Ky., June 22.

JOHN M. THOMAS, M.D., Columbus, Ohio, to Miss Florence Anderson of Cleveland, Ohio, June 22.

C. L. NEUBERT, M.D., to Mrs. Alice Gross, both of Denver, Colo., at Council Bluffs, Iowa, June 14.

SPENCER S. FULLER, M.D., Paxton, Ill., to Miss Marguerite Linton Smith of Riverside, Ill., June 29.

CHARLES EDWIN FRENCH, M.D., El Paso, Texas, to Miss Alice L. Werne, Louisville, Ky., June 21.

WILLIAM TYLER DOUGLASS, M.D., to Miss Emma Viola Anderson, both of Harrisburg, Pa., June 22.

LAURENCE RICHARD DE BUYS, M.D., Houma, La., to Miss Miriam Duggan of New Orleans, June 14.

HENRY BOLIN ALLEN, M.D., Americus, Ga., to Miss Mary Graybill Jogner of Sandersville, Ga., June 8.

GEORGE FRANCIS MILLS, M.D., Oneida, N. Y., to Miss Anna Regina Devereux, at Buffalo, N. Y., June 23.

CARL FRANCIS DENMAN, M.D., Danby, N. Y., to Miss Marie Elizabeth Peck of Brookton, N. Y., June 29.

GEORGE S. BROWNING, M.D., Alma, Mich., to Miss Myrtle Goodrich of Lacon, Ill., at Chicago, June 21.

RALPH W. HOLMES, M.D., Gallipolis, Ohio, to Miss Carolyn Gertrude Woolslair of Beaver, Ohio, June 7.

GEORGE H. DEMPSEY, M.D., Grafton, Ill., to Miss Hattie J. Richardson of Maumee, Ill., at St. Louis, June 23.

ARTHUR WISE DE BELL, M.D., Powellton, W. Va., to Miss Elizabeth Fairfax Beach of Norfolk, Va., June 29.

OTTO E. WESTERFIELD, M.D., San Francisco, to Miss Mary Lawrence Mills of North Manchester, Ind., June 22.

DANIEL E. HEALEY, M.D., South Framingham, Mass., to Miss Katherine G. White, of Swampscott, Mass., June 15.

LEWIS F. LADD, M.D., Martin, Mich., to Miss Lenna Gertrude Atwood of Battle Creek, Mich., in Chicago, June 22.

J. ALBERT NOBLE, M.D., San Francisco, to Miss M. K. Walsh, formerly of Honolulu, H. I., at Santa Cruz, Cal., June 15.

J. EDWARD LUNDY, M.D., Portage la Prairie, Man., to Miss Agnes D. Barnett of Arnprior, Que., in Montreal, June 8.

DARNEY M. TRICE, M.D., Charlottesville, Va., to Miss Annie Waller Cocke of Red Hills, Fluvianna County, Va., June 7.

ALICE GRAY SNIDER, M.D., Ann Arbor, Mich., and HUGH THOMPSON, M.D., New York City, at Coshocton, Ohio, June 15.

JOHN EDWARD SCHWENDENER, M.D., Milwaukee, Wis., to Miss Mary Barbara Corneliussen of Story City, Iowa, June 15.

Deaths.

William H. Saylor, M.D. Willamette University Medical Department, Portland, Ore., 1869, corresponding secretary of the Oregon State Medical Society in 1889, and president in 1893; in 1882 and 1883 professor of anatomy at Willamette University, and thereafter professor of clinical surgery and genito-urinary diseases in the medical department of the University of Oregon, and president of the State Board of Medical Examiners since its organization in 1895, died at Good Samaritan Hospital, Portland, June 8, from heart disease, aged 60.

Henry H. Seys, M.D. University of Maryland School of Medicine, Baltimore, 1853, surgeon, medical director and medical inspector in the Army during the Civil War; for 16 years health officer of Springfield, Ohio, and for half a century a practitioner in that city; died at his home in Springfield, June 17, from nephritis, after a long illness, aged 73. Clark County Medical Society, and the Springfield Board of Health, at special meetings, passed resolutions of respect and sorrow.

James Simpson, M.D. Jefferson Medical College, Philadelphia, 1865, who, although an undergraduate, had charge of the hospital corps at Alexandria, Va., throughout the Civil War; for many years chief surgeon at St. Mary's Hospital, Philadelphia, died at the General Hospital in that city, June 20, after a long illness, aged 65.

Henry J. Power, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, who retired from practice in 1899 on account of ill health, died at his home in McKeesport, Pa., June 15, from heart disease, after an illness of six months, aged 49.

Julius J. Stricker, M.D. Jefferson Medical College, Philadelphia, 1878, of Portage, Pa., president of the Cambria County Board of Health, died in the Cambria Memorial Hospital, Johnstown, Pa., June 20, from paralysis, after an illness of two months, aged 54.

John J. Quinn, M.D. Detroit (Mich.) College of Medicine, 1893, a member of the American Medical Association, was found dead in his office in Superior, Wis., June 17, from the effects of chloroform, supposedly self-administered, aged over 40.

Duncan N. Patterson, M.D. Jefferson Medical College, Philadelphia, 1854, of Mangum, N. C., member and ex-president of the Medical Society of the State of North Carolina, died at the home of his daughter in Charlotte, N. C., June 25, aged 74.

James B. Neil, M.D. University of Nashville Medical Department, 1846, assistant surgeon in the Confederate service, and formerly state senator, died at his home in Nashville, Tenn., June 27, after an illness of three months, aged 67.

William J. McNiff, M.D. University of Vermont Medical Department, Burlington, 1898, of East Pepperell, Mass., a member of the Massachusetts Medical Association, died at the family home in Worcester, Mass., June 17.

Bryan G. Williams, M.D. Bellevue Hospital Medical College, New York City, 1893, for several years assistant physician at the Long Island State Hospital, King's Park, N. Y., died and was buried at sea, May 13.

Dennis J. Treacy, M.D. Jefferson Medical College, Philadelphia, 1867, who had been suffering for a long time from malignant disease of the liver, was found dead in bed in his home in Philadelphia, aged 63.

Clifford Franklin Odell, M.D. Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa, 1903, died at his home in Moline, Ill., June 15, from tuberculosis, after an illness of six months, aged 23.

James D. Pettus, M.D. Kentucky, 1893, for more than half a century a practitioner of Lincoln County, Ky., died at his home in Crab Orchard, June 3, from paralysis, after a short illness, aged 74.

John Edward Maguire, M.D. College of Physicians and Surgeons, Boston, 1888, of Lowell, Mass., died at the family home in Pigeon Cove, Mass., June 22, from consumption, aged 38.

Leonard Brooks Parker, M.D. Castleton (Vt.) Medical College, 1843, sometime state senator, and for 58 years a resident of Marine City, Mich., died at his home, June 19, aged 85.

William Oscar Cameron, M.D. Medical Department of Western Reserve University, Cleveland, 1895, died at his home in Johnstown, Pa., January 5, after a short illness.

Lucian A. Lowden, M.D. Medical College of Indiana, Indianapolis, 1885, committed suicide by taking strychnin in his office in North Indianapolis, Ind., June 21, aged 43.

Franklin R. Robey, M.D. Meharry Medical College, Nashville, Tenn., 1883, died suddenly from hemorrhage of the lungs at his home in Houston, Texas, June 23.

Frank A. Rockwith, M.D. Philadelphia, 1871, died at his home in Saginaw, Mich., June 23, from paralysis, after an invalidism of ten years, aged 68.

James M. Clement, M.D. Medical Department of the University of Pennsylvania, Philadelphia, 1862, died June 12, at his home in Philadelphia, aged 71.

M. Ayres Robinett, M.D. Cleveland Medical College, 1870, of Beach City, Ohio, was struck by an electric car, June 18, and instantly killed, aged 56.

Jephtha G. Dolley, M.D. Cincinnati, 1854, a member of the Orleans County Medical Association, died at his home in Albion, N. Y., June 8, aged 75.

Richard D. Lucius, M.D. Medical College of Alabama, Mobile, 1871, of Eutaw, Ala., died from heart disease at Tuscaloosa, Ala., June 13, aged 57.

William M. Murchison, M.D. University of Louisville Medical Department, 1880, died at his home in Weimar, Texas, June 17, after a short illness.

Charles Rockhold, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874, died at his home in Parsons, Kan., from paralysis, June 18.

William B. Lewellen, M.D. Kentucky School of Medicine, Louisville, 1859, died suddenly at his home in Saverton, Mo., June 20, aged 81.

W. B. Pullen, M.D. Hospital College of Medicine, Louisville, 1888, died at his home in Jacksonville, Texas, April 10, from pneumonia.

James C. Mitchie, M.D. Ohio, 1886, died in North Adams, Mass., June 14, from diabetes, after a long illness, aged 67.

A. J. Overholt, M.D., a pioneer of Salida, Colo., died at his home in that city, June 7, from heart disease, aged 64.

Elijah Merriman, M.D. Medical College of Fort Wayne, Ind., 1877, died at his home in South Whitley, Ind., June 10.

Benjamin B. Gumpert, M.D. Philadelphia, 1853, died at his home in Philadelphia, June 23, from apoplexy, aged 88.

George D. Sparham, M.D. McGill University, Montreal, died at his home in Athens, Ont., April 20, aged 95.

David D. Thomas, M.D. University of Louisville, 1849, died at his home in Dallas, Texas, April 21, aged 80.

M. H. Mills, M.D. Ohio, 1872, of Tipton, Ind., died from apoplexy, at Rochester, Ohio, June 12, aged 50.

Orsino A. Williams, M.D. St. Louis Medical College, 1870, died at his home in Versailles, Mo., May 6.

James H. Horton, M.D., 1873, died at his home in Clinchport, Scott County, Va., June 15, aged 76.

John B. Smith, M.D. Heidelberg, died at his home in Perry, Ga., June 4, aged 91.

Association News.

NEW MEMBERS.

New members for the month of June, 1904:

ALABAMA.

Mason, Jas. M., Birmingham.
McAdory, W. P., Birmingham.
Ward, H. S., Birmingham.
Heacock, J. D., Birmingham.
Robertson, W. H., Clayton.
Castleman, H. L., Sylacauga.

ARIZONA.

Dodsworth, R. M., Phoenix.

ARKANSAS.

Robinson, J. C., Marianna.
Sparks, J. E., Ashley.

CALIFORNIA.

Fleming, E. W., Los Angeles.
Ferbert, J. C., Los Angeles.
Zillmer, A. L. W., San Francisco.
Stevens, W. E., San Francisco.
Gleason, C. D. B., San Francisco.
Westerfeld, O. F., San Francisco.
Stimpson, W. G., San Francisco.
Hogue, G. I., San Francisco.
Burnham, C. J., San Francisco.
Zobel, A. J., San Francisco.
Mohun, C. C., San Francisco.
Hamlin, O. D., Oakland.
Hare, Jessie D., Fresno.

COLORADO.

Fisk, S. A., Denver.
Drechsler, Wm., Denver.

CONNECTICUT.

Brainard, C. B., Hartford.
Lampson, E. R., Jr., Hartford.
Kane, T. T., Hartford.
Sheedy, G. F., Bridgeport.
Smith, E. T., Hartford.
Cook, Ansel G., Hartford.
Swett, Josiah, New Hartford.
Barnes, Wm. S., New Haven.
Hartshorn, W. E., New Haven.
Kilbourn, C. L., New Haven.
Foster, J. P. C., New Haven.
Tuttle, C. A., New Haven.
Goodrich, Wm. A., Waterbury.
Platt, Wm. L., Torrington.
Reidy, D. D., Winsted.
Goodwin, Ralph S., Thomaston.
Plummer, Paul, Collinsville.
Hayes, J. D., Torrington.
Robinson, M. P., Windsor Locks.
Irving, S. W., New Britain.
Miller, W. R., Southington.
Mansfield, H. P., Ridgefield.
Kelsey, E. R. Winsted.
Caldwell, W. E., West Suffield.
Stanley, C. E., Middletown.
Ives, Sarah E., Middletown.
Kowalewski, V. A., West Haven.
Robbins, Jas. W., Naugatuck.

CUBA.

Weber, Andres P., Havana.

DELAWARE.

Kollock, H. G. M., Newark.

DISTRICT OF COLUMBIA.

Polkinhorn, Henry A., Washington.
Burch, W. T., Washington.
Geddings, H. D., asst. surg. gen., Washington.
Borden, Major W. C., Washington.
Edie, Guy L., surg. U. S. A., Washington.
O'Reilly, R. M., surg. gen. U. S. A., Washington.
Fry, Samuel, Washington.
Hagner, Francis R., Washington.
Wiley, Harvey W., Washington.
Morgan, W. G., Washington.

FLORIDA.

Kerr, Geo., Pierson.
Taylor, H. M., Crystal River.
Cannon, A. B., Sarasota.

GEORGIA.

Daniels, B. A., Thomasville.
Sessoms, W. C. Brewton.
Campbell, M. G., Atlanta.

HAWAIIAN ISLANDS.

Cooper, Chas. B., Honolulu.

ILLINOIS.

Mueller, Frederick, Chicago.
Hosmer, A. B., Chicago.
Andrews, F. T., Chicago.
Brown, E. J., Chicago.
Richardson, J. R., Chicago.
Schemba, F. H., Chicago.
Vaill, E. J., Elgin.
Alguire, Alden, Belvidere.
Alguire, Annie, Belvidere.
Swan, Chas. E., Dunning.
Jack, C. M., Decatur.
Turner, F. A., Sandwich.
Sherman, E. A., Aurora.
Waggonner, F. A., Hamilton.
Angear, B. H. S., Sublette.
Gagnon, A. L., Kankakee.

INDIANA.

Dinnen, J. M., Ft. Wayne.
Kimberlin, A. C., Indianapolis.
Dugan, T. J., Indianapolis.
Hughes, W. F., Indianapolis.
Barcus, P. J., Crawfordsville.
Scull, L. E., Hammond.
Wharton, W. L., Matthews.
Davis, T. Henry, Richmond.
Keyes, P. H., Dana.
Kerrigan, J. J., Michigan City.
Myers, B. D., Bloomington.
Johnson, O. B., Liston.

INDIAN TERRITORY.

Cook, W. Albert, Tulsa.
Childs, J. S., Purcell.

IOWA.

Hetzel, C. C., Iowa City.
Paul, C. B., Des Moines.
Osborn, J. W., Des Moines.
Fay, Oliver J., Des Moines.
Mammen, G. H., Le Mars.
Cole, A. J., Britt.
Somers, R. H., Le Mars.
Stuart, P. E., Nashua.
Smith, C. P., Mason City.
McDonald, J. E., Mason City.
Ramage, Chas., Charles City.
Horton, J. D., Nashua.
Sabin, A. E., Kirkman.

KANSAS.

Cowen, H. K., Midway.
Welsh, H. G., Hutchinson.
Walker, A. E., Anthony.

KENTUCKY.

Taylor, P. R., Louisville.
Peak, J. H., Louisville.
Felix, Chas. W., Olaton.
Hume, E. E., Frankfort.
Smith, Wm. C., Hadley.
Knox, D. B., Georgetown.
Hall, E. N., Woodburn.
Heizer, Wm. J., New Haven.
Gibson, H. R., Richmond.
Offutt, W. N., Lexington.

LOUISIANA.

Roberts, Norman, New Orleans.
Smith, V. C., Henderson.
Peters, A. M., Winnfield.
White, J. A., Alexandria.

MAINE.

Gilbert, F. Y., Portland.
Straw, N. W. R., Portland.
Thayer, A. S., Portland.
Nichols, Estes, Portland.
Wight, I. H., Bethel.
Sturgis, J. I., New Gloucester.

MARYLAND.

Streett, David, Baltimore.
Cordell, E. F., Baltimore.
Branin, C. N., Baltimore.
Biedler, H. H., Baltimore.
Schaefer, Otto, Baltimore.
Smith, W. S., Baltimore.
Dare, Geo. S., Rising Sun.
Jamar, J. H., Elkton.
Collins, C. E., Crisfield.
Schreiner, E. R. (U. S. Army), Ft. McHenry.
Smith, F. B., Frederick City.

MASSACHUSETTS.

Southard, E. E., Boston.
Dow, E. S., Boston.
Fitz, R. H., Boston.
Knight, F. I., Boston.
Marcley, W. J., Rutland.
Flagg, P. J., Wittineague.
Mahoney, F. R., Lowell.
Sturgis, B. F., Jr., Salem.
Pritchard, W. P., Fall River.
Page, J. G. E., Southbridge.
Benner, H. O., So. Framingham.
Berry, J. C., Worcester.
Ryan, D. M., Ware.
O'Connor, J. E., Fall River.
Flynn, J. J., Pittsfield.
Leard, J. S. H., Jamaica Plain.
Gifford, J. H., Fall River.

MICHIGAN.

Hoff, N. S., Ann Arbor.
Northcott, A. T., Bay City.
Erwin, R. W., Bay City.
Tiffin, W. E., Detroit.
Loucks, R. E., Detroit.
Galley, J. K., Detroit.
Connor, G. L., Detroit.
Aitcheson, W., Ortonville.
Holbrook, A. G., Coldwater.
Garner, H. B., Traverse City.
Wheelock, A. S., Goodrich.
Cunningham, T. M., Marquette.
Frazin, John V., Lapeer.
Simonson, A. B., Calumet.
Abbott, John T., Ovid.

MINNESOTA.

Wooley, E. M., Winona.
Gulick, W. V., Oronoco.

MISSOURI.

Lichtenberg, J. S., Kansas City.
Hall, F. J., Kansas City.
Yancy, E. F., Sedalia.
Tinsley, G. N., Bowling Green.

MONTANA.

Tuttle, T. D., Helena.

NEBRASKA.

Crummer, LeRoy, Omaha.
Swoboda, Louis, Omaha.

NEW HAMPSHIRE.

Brown, J. S., Manchester.
Perkins, F. H., Manchester.

NEW JERSEY.

Doriss, H. S., Atlantic City.
Bartlett, Clara K., Atlantic City.
Garrabrant, Clarence, Atlantic City.
Scott, Geo., Atlantic City.
Metzler, V. W., Atlantic City.
Shimer, A. B., Atlantic City.
Frick, J. H., Atlantic City.
Lippincott, A. H., Camden.
Bailey, W. G., Camden.
Cramer, Alfred, Camden.
Saunders, O. W., Camden.
Martindale, J. Watson, Camden.
Schellenger, E. A. Y., Camden.
Leavitt, J. F., Camden.
Bushey, S. G., Camden.
Tutschulte, E., Newark.
Petry, Wm., Newark.
Paul, F. M., Newark.
Crankshaw, C. W., Newark.
Reddon, M. W., Trenton.
Ackley, Bartine, Trenton.
Rogers, Richard R., Trenton.
Ward, J. W., Trenton.
Blair, J. E., Burlington.
Halsey Jos. G., D. D. S., Swedesboro.
Simmons, W. G., Swedesboro.
De Grofft, E. E., Woodstrom.
Hand, Anna M., Cape May City.
Blake, Duncan W., Gloucester City.
Lummis, M. F., Cape May City.
Demarest, Fred. F. C., Passaic.
Stroud, F. G., Moorestown.
Stevenson, J. R., Haddonfield.
Pugh, J. Howard, Burlington.
McClure, Jas. C., Williamstown.
Leedy, E. D., Flemington.
Kice, H. W., Wharton.
Terhume, Percy H., Passaic.
Hall, Walter H., Burlington.
Fish, Clyde M., Pleasantville.
Glendon, W. P., Cedarville.
Fisher, C. F., Clayton.
Garrison, Daniel, Penn Grove.
Helfer, Samuel A., Hoboken.

NEW YORK.

Townsend, H. S., Buffalo.
Culkins, J. R., Rochester.
Santry, A. B., Little Falls.
Showerman, B. F., Batavia.
Reid, G. C., Westernville.
Quackenbush, L. H., Binghamton.
Dunning, Mary E., Newburg.
Lucid, M. M., Cortland.
Weidman, J. A., Dunkirk.
Rogers, B. F., Buffalo.
Hastings, T. W., New York City.
Frauenthal, H. W., New York City.
Nydegger, J. A., New York City.
Brickner, S. M., New York City.

NORTH CAROLINA.

McIver, Lynn, Sanford.
Cooke, F. K., Wake Forest.
Long, J. W., Greensboro.
Strong, C. M., Charlotte.
Crowell, S. M., Charlotte.

OHIO.

Todd, G. M. Akron.
King, G. L., Alliance.
Rinehart, H. D., Dayton.
Barker, F. D., Dayton.
Lamb, F. W., Cincinnati.
Iglauer, Samuel, Cincinnati.
Large, Secord H., Cleveland.
Lowman, John H., Cleveland.
Lucas, V. C., Cleveland.
Farrar, H. D., Columbus.
Donnelly, James, Toledo.
Bowman, D. E., Toledo.
James, J. K., Delaware.
Robertson, Joseph, Steubenville.
Rhoten, W. G., Mowrystown.
Brattain, G. E., Paulding.
Keenan, I. W., Quaker City.
Edwards, F. M., Portsmouth.
Harrison, F. M., Napoleon.
Moore, H. M., Oxford.
Vermilya, O. C., Fremont.

OKLAHOMA TERRITORY.

Bonham, J. M., Hobart.

OREGON.

Beard, T. E., Grants Pass.
Courtney, J. S., Dayton.

PENNSYLVANIA.

Jones, W. W., Allegheny.
Singley, John De V., Allegheny.
Shillito, N., Allegheny.
Cole, W. W., Allegheny.
Hertz, W. J., Allentown.
Postles, D. W., Chester.
Crothers, L. H., Chester.
Gottschalk, Leon, Chester.
Roberts, F. C., Easton.
Sagerson, J. L., Johnstown.
Gerhard, J. R., Reading.
Rigg, S. B., Reading.
Rhode, Homer J., Reading.
Taylor, S. Banks, Reading.
Cleaver, Israel, Reading.
Grim, D. S., Reading.
Loose, C. G., Reading.
Irwin, J. B., Washington.
Davis, Walter, Wilkesbarre.
Fell, A. G., Wilkesbarre.
Robin, L. N., Pittsburg.
Miller, Harold A., Pittsburg.
Johnson, T. D. Barton, Pittsburg.
Murdock, F. H., Pittsburg.
Hitzrot, C. H., Pittsburg.
Leffman, H., Pittsburg.
Bernardy, H. L., Philadelphia.
La Wall, Chas. H., Philadelphia.
Potsdamer, J. B., Philadelphia.
Dray, Arthur R., Philadelphia.
Carrier, Frederick, Philadelphia.
Horgan, Edw., Philadelphia.
Norris, Richard C., Philadelphia.
Lancaster, Thos., Philadelphia.
Thomas, C. H., Philadelphia.
Tully, E. W., Philadelphia.
Collins, F. K., Philadelphia.
Drummond, Winslow, Philadelphia.
Hammond, W. A., Philadelphia.
Biggs, Montgomery H., Philadelphia.
Bauer, Marie L., Philadelphia.
Berens, Bernard, Philadelphia.
Given, Ellen E. W., Philadelphia.
Allen, Luther M., Philadelphia.
Ellis, Aller G., Philadelphia.
Burns, Stillwell C., Philadelphia.
Huston, David T., Philadelphia.
Butler, Margaret F., Philadelphia.
Fleming, T. J., Philadelphia.
Fulton, Z. M. K., Philadelphia.
Franklin, Melvin M., Philadelphia.
Picard, Henry L., Philadelphia.
Kyle, E. B., Philadelphia.
McGuigan, J. I., Philadelphia.
Mudgett, J. H., Philadelphia.
Muller, G. P., Philadelphia.
Pepper, W. L., Philadelphia.
Dubbs, J. H., Philadelphia.
Brown, Fred. K., Philadelphia.
Pontius, Paul J., Philadelphia.
Loughridge, Samuel S., Philadelphia.

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Goepp, R. Max, Philadelphia.
Watt, Robt., Philadelphia.
Remington, Jos. P., Philadelphia.
Butt, Miriam M., Philadelphia.
Lowe, C. B., Philadelphia.
Fife, C. A., Philadelphia.
Steel, W. A., Philadelphia.
Broune, Chas., Philadelphia.
Keech, Harry B., Philadelphia.
Saxman, N. H., Philadelphia.
O'Farrell, G. D., Philadelphia.
Lytle, I. W., Philadelphia.
Hoyt, D. M., Philadelphia.
Weaver, W. W., Philadelphia.
Roberts, Walter, Philadelphia.
Fahy, J. Eugene, Philadelphia.
Ankeney, Clinton R., Philadelphia.
Allen, J. H., Philadelphia.
Smith, Addison W., Scranton.
Webb, D. A., Scranton.
Spitzer, W. M., Scranton.
Arndt, F. F., Scranton.
Capwell, D. A., Scranton.
Sturge, Edgar, Scranton.
Rodham, Thos. B., Scranton.
Corser, John B., Scranton.
C. M. Adams, Williamsport.
Frantz, C. J., Warren.
Walsh, F. A., Erie.
Cracraft, C. C., Claysville.
Sturdevant, D. W., Laceyville.
Wilcox, H. B., Kingston.
Boal, Geo. F., Freedom.
Hogan, Wm. C., Bradford.
Rose, W. A., Rochester.
Shugert, Guy S., Rochester.
Cloud, J. H., Ardmore.
Wellman, H. M., Blairsville.
Simpson, W. A., Indiana.
Carson, J. B., Blairsville.
Wick, J. A., New Bethlehem.
Nicholls, R. D., Glassport.
Good, J. F., New Cumberland.
Meanor, W. C., Beaver.
Lenker, C., Schuylkill Haven.
Stotts, Arthur F., Ehrenfeld.
Foster, John, New Castle.
Carson, Susan R., Lansdowne.
Hoopes, W. H., Newport.
Hoover, A. M., Parker's Landing.
Shellenberger, Edw., Warren.
Eldon, Wm. McKee, Roaring Spring.
Dickson, Wm. R., McDonald.
Heilman, Sharon P., Kittanning.
Heller, H. D., Hellertown.
Pilcher, J. E., Carlisle.
Scroggs, J. J., Beaver.
Kendall, Eugene E., Waterford.
Marsden, Henry I., Somerset.
Pohl, H. C., Nazareth.
Rentzheimer, W. H., Hellertown.
Mann, C. H., Bridgeport.
Swarzlander, L. B., Doylestown.
Robison, J. I., State College.
La Ross, W. A., McDonald.
McCreary, J. Bruce, Shippensburg.
Milmor, R. H., Warrensville.
Minnich, Wm. H., Dallastown.
Lessig, L. A., Schuylkill Haven.
Hunter, J. R. W., Lewistowr
Brodbeck, John R., Codorus.
Weide, Geo. A., Frederick.
Wilheim, E. T., So. Bethlehem.
Dotterer, Chas. B., Zieglerville.
Bauman, J. W., Lansdale.
Ewing, Wm. B., West Grove.
Crewitt, John A., Newtown.
Farquhar, Geo. W., Pottsville.
Fraunfelder, J. A., Nazareth.
Godfrey, Andrew, Ambler.
Elliott, Thos., Sharon.
Ely, Jas. B., Newport.
Beckwith, J. F., Plymouth.
Gutshall, Frank A., Blair.

PHILIPPINE ISLANDS.

Woolley, Paul G., Manila.

RHODE ISLAND.

Higgins, Chas. W., Providence.
Abbott, Harlan P., Providence.
Wilson, Wm. E., Pawtucket.

SOUTH DAKOTA.

Coller, Granville J., Brookings.
Jenkinson, Henry E., Wessington Springs.
Bartholomew, P. H., News.

TENNESSEE.

Webb, U. R., Covington.
Moore, J. T., Algood.
Williams, W. B., Dayton.

TEXAS.

Capps, Edgar D., Ft. Worth.
Hart, S. W., Mineola.
Robinson, W. L., Basette.
Scott, E. E., Matagorda.
Neal, W. S., Dalhart.
Fowler, E. M., Forney.
Neely, W. H., Terrell.
Barnes, H. D., Tulia.

UTAH.

Worthington, Union, Salt Lake City.
Rich, Ezra C., Ogden.
Fisk, F. F., Price.
Buchtel, F. C., Vernal.
Rich, Edward I., Ogden.

VERMONT.

Arthur, F. M., Pittsford.

VIRGINIA.

Newbill, C. F., Norfolk.
White, Reid, Lexington.
Powell, Oscar L., Onancock.
Quick, T. C., Falls Church.

WEST VIRGINIA.

Forman, L. H., Buckhannon.

WISCONSIN.

Schmitt, Foster, Milwaukee.
Weber, Fred. R., Milwaukee.
Seaman, G. E., Milwaukee.
Fiedler, Otho, Milwaukee.
Birkbeck, Samuel, Gratiot.
Cox, Joseph P., Spooner.
Kern, Josef, Cecil.
Jackson, R. H., Madison.
Malloy, T. E., Random Lake.
Wing, W. S., Oconomowoc.
Staehle, M., Manitowoc.

WYOMING.

Miller, S. B., Laramie.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending July 2, 1904:

Kilbourne, H. S., deputy surgeon general, relieved from duty in Philippine Division and to proceed to San Francisco on transport to sail from Manila, P. I., July 15, 1904. On arrival at San Francisco to report by telegraph to the military secretary for further orders.

Gandy, Charles M., surgeon, detailed as examiner of recruits at Detroit in addition to his duties at Fort Wayne, Mich.

Webber, Henry A., asst.-surgeon, left Fort Walla Walla, Wash., on detached duty en route to American Lake, Wash.

Mabee, James I., asst.-surgeon, ordered to proceed from Fort Casey, Wash., to American Lake, Wash., for duty during maneuvers.

Grubbs, R. B., asst.-surgeon, ordered to proceed from Fort Wright, Wash., to Camp Nesqually, American Lake, Wash., for duty during maneuvers.

Geer, Charles C., asst.-surgeon, granted thirty days' sick leave, with permission to apply for thirty days' extension.

Farr, Charles W., and Brechemin, Louis, Jr., asst.-surgeons, on duty at Fort Mason and Baker, Cal., will report to the commanding officer, Company of Instruction, Hospital Corps No. 2, Fort McDowell, Cal., for duty during the maneuvers in Department of California and Columbia, and on completion of same return to their respective stations.

Church, James R., asst.-surgeon, granted thirty days' sick leave, with permission to apply for two months' extension.

Sweaney, Verge E., asst.-surgeon, relieved from further duty in Philippine Division and assigned to temporary duty at U. S. A. General Hospital, Presidio of San Francisco.

Shaw, Henry A., surgeon, assignment to duty as chief surgeon, Second Provisional Division at Army maneuvers, Manassas, Va., revoked.

Harris, H. S. T., surgeon, designated for duty as chief surgeon, Second Provisional Division at Army maneuvers to be held at Manassas, Va.

Borden, Wm. C., surgeon, granted leave of absence for one month and five days.

Woodruff, Chas. E., surgeon, sick leave extended two months.

Smart, Charles, asst.-surgeon general, relieved from duty in the Philippine Division and will proceed by the first available transport from Manila, P. I., to San Francisco, and on arrival report by telegraph to the military secretary, War Department, for orders.

Stark, Alexander N., asst.-surgeon, relieved from further duty in Washington, D. C., as attending surgeon, and will report in person to Rear Admiral John G. Walker, U. S. Navy, Chairman of the Isthmian Canal Commission, for duty on commission.

Anderson, Everett A., contract surgeon, contract annulled this date at his own request.

Watkins, V. E., contract surgeon, left Fort Miley, Cal., at date, to take station at Fort Apache, Ariz.

Corbusier, H. D., contract surgeon, granted one month's leave of absence.

Adair, G. W., contract surgeon, ordered to Fort DuPont, Del., for temporary duty.

Wilkins, A. M., contract surgeon, arrived at Fort Baker, Cal., for duty.

Koyle, Fred T., contract surgeon, ordered to proceed to Fort Bliss, Texas, for temporary duty.

Daywalt, Geo. W., contract surgeon, granted one month's leave of absence.

Shellenberger, James E., contract surgeon, ordered to proceed to Fort St. Philip, La., for temporary duty.

Felts, Robert L., contract surgeon, ordered to proceed to Fort Logan H. Roots, Ark., for temporary duty.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ended July 2, 1904:

Huntington, E. O., surgeon, ordered to the Naval Hospital, Portsmouth, N. H.

Carpenter, D. N., surgeon, detached from duty with the marine battalion on the Isthmus of Panama and ordered home and to await orders.

Richardson, R. R., asst.-surgeon, ordered to the *Wabash*.

Smith, O. G., passed asst.-surgeon, commissioned passed assistant surgeon, with the rank of lieutenant, from April 12, 1904.

Bell, W. H., passed assistant surgeon, detached from the Naval Hospital, Portsmouth, N. H., and ordered to duty with the marine battalion on the Isthmus of Panama.

Shiffert, H. O., asst.-surgeon, detached from the *Nashville*, and ordered home to await orders.

Taylor, E. C., asst.-surgeon, detached from the Naval Hospital, San Juan, P. R., and ordered to the *Bancroft*.

McDonnold, P. E., asst.-surgeon, detached from the Naval Museum of Hygiene and Medical School, Washington, D. C., and ordered to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Mink, O. J., asst. surgeon, ordered to the Naval Hospital, Philadelphia.

Porter, F. E., asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

Campbell, R. A., acting assistant surgeon, detached from duty with Naval Recruiting Party No. 1 and ordered home to wait orders.

Plummer, R. W., passed assistant surgeon, detached from the *Bancroft* and ordered to the Naval Hospital, San Juan, P. R.

McClannahan, R. K., asst.-surgeon, ordered to the General Hospital, Fort Bayard, N. M., for treatment.

Seaman, W., asst.-surgeon, ordered to the *Wabash*.

McCullough, F. E., passed assistant surgeon, detached from the *Wisconsin* and ordered home.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the twenty-one days ended June 30, 1904:

Williams, L. L., assistant surgeon general, granted leave of absence for one month from July 18.

Vaughan, G. T., assistant surgeon general, granted leave of absence for six days from June 13.

Gassaway, J. M., surgeon, detailed as sanitary officer at the Louisiana Purchase Exposition.

Irwin, Fairfax, surgeon, granted leave of absence, on account of sickness, for seven days.

White, J. H., surgeon, granted leave of absence for fourteen days from July 3.

Wertenbaker, C. P., surgeon, seven days' leave of absence from June 14, 1904, under paragraph 189 of the regulations.

Brown, B. W., passed assistant surgeon, granted leave of absence for two months from July 1.

Eager, J. M., passed assistant surgeon, proceed to Messina, Italy, for special temporary duty.

Nydegger, J. A., passed assistant surgeon, department letter of June 6, 1904, granting extension of leave of absence, on account of sickness, for five days from June 5, revoked. Granted leave of absence for five days from June 5.

Cumming, H. S., passed assistant surgeon, granted leave of absence for twenty-one days from July 1.

Richardson, T. F., passed assistant surgeon, proceed to Alice, Tex., for special temporary duty; to proceed to certain points in Texas for special temporary duty.

Holt, J. M., assistant surgeon, granted leave of absence for one month from June 25; granted leave of absence for seven days from June 17 under paragraph 191 of the regulations.

Trotter, F. E., assistant surgeon, to proceed to San Francisco Quarantine and assume temporary charge during the absence, on leave, of the medical officer in command.

Scheerschewsky, J. W., asst.-surgeon, granted leave of absence for one month from June 20.

Amesse, J. W., asst.-surgeon, detailed to represent service at meeting of Washington State Medical Association, at Seattle, Washington, July 12-14.

Berry, T. D., asst.-surgeon, relieved at Louisville, Ky., and directed to proceed to Laredo, Tex., for duty.

Bahrenburg, L. P. H., asst.-surgeon, to proceed to Evansville, Ind., and assume temporary charge during the absence, on leave, of the medical officer in command. Granted leave of absence for seven days from June 14, 1904, under paragraph 191 of the regulations.

Boggess, J. S., asst.-surgeon, proceed to Washington, D. C., for special temporary duty.

Pettyjohn, J., asst.-surgeon, relieved at Immigration Depot, New York, and directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Spratt, R. D., asst.-surgeon, directed to proceed to Louisville, Ky., and report to medical officer in command for temporary duty and assignment to quarters.

Porter, J. Y., sanitary inspector, to proceed to Cumberland Sound Quarantine, Fla., as inspector.

Goldsborough, B. W., acting assistant surgeon, leave of absence for four days from June 7, 1904, granted by bureau letter of June 10, revoked.

Mackall, B. McV., acting assistant surgeon, granted leave of absence for five days from June 16, under paragraph 210 of the regulations.

Safford, M. V., acting assistant surgeon, granted leave of absence for three days from June 9, under paragraph 210 of the regulations.

Schug, F. J., acting assistant surgeon, granted leave of absence for thirty days from July 1.

Stuart, A. F., acting assistant surgeon, granted leave of absence for thirty days from July 1, 1904.

Wetmore, W. O., acting assistant surgeon, granted leave of absence for four days from June 15, under paragraph 210 of the regulations.

La Grange, J. V., pharmacist, granted leave of absence for seven days from June 14, under paragraph 210 of the regulations.

Waterius, M., pharmacist, granted leave of absence for thirty days from July 15.

Holt, E. M., pharmacist, granted leave of absence for eleven days from July 5.

Carrington, P. M., surgeon, to proceed to certain points on the El Paso & Northeastern Railway for special temporary duty.

Trask, J. W., assistant surgeon, from duty at Fort Stanton, N. M., and directed to proceed to Chicago and report to medical officer in command for duty and assignment to quarters.

Moore, G. P., acting assistant surgeon, granted leave of absence for seven days from July 3, 1904, under provisions of paragraph 210 of the regulations.

Steuart, G. H., acting assistant surgeon, granted leave of absence for fourteen days from July 1.

BOARDS CONVENED.

Board convened at Washington, D. C., June 13, for the physical examination of an officer of the Revenue-cutter Service and an applicant for appointment. Detail for the board: Assistant Surgeon General L. L. Williams, chairman; Assistant Surgeon General W. J. Pettus, recorder.

Board convened at Stapleton, N. Y., June 18, for the physical examination of an officer of the Revenue-cutter Service. Detail for the board: Passed Assistant Surgeon A. C. Smith, chairman; Passed Assistant Surgeon J. R. Greene, recorder.

Board convened at Washington, D. C., June 30, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Assistant Surgeon General O. T. Vaughan, chairman; Assistant Surgeon A. J. McLaughlin, recorder.

Board convened at Fort Townsend, Wash., July 2, for the physical examination of an officer of the Revenue-cutter Service. Detail for the board: Passed Assistant Surgeon J. H. Oakley, chairman; Passed Assistant Surgeon M. H. Foster, recorder.

APPOINTMENT.

Dr. Edward Erskine appointed acting assistant surgeon for duty at Rogers City, Mich., effective June 16, 1904.

RESIGNATION.

Pharmacist C. H. Bierman resigned, to take effect June 16, 1904.

CASUALTY.

Acting Assistant Surgeon H. McD. Martin died at Fredericksburg, Va., June 22, 1904.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from June 26 to July 1, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, June 12-19, 1 case.
District of Columbia: Washington, June 11-18, 4 cases.
Florida: At large, June 18-25, 7 cases, 1 death.
Georgia: Macon, June 18-25, 1 case.
Illinois: June 18-25, Chicago, 1 case; Danville, 1 case.
Louisiana: New Orleans, June 18-25, 5 cases, 3 cases imported.
Maryland: Baltimore, June 18-25, 2 cases.
Massachusetts: Lawrence, June 18-25, 1 case.
Michigan: Detroit, June 18-25, 3 cases.
Missouri: St. Louis, June 18-25, 9 cases.
Nebraska: June 18-25, Omaha, 2 cases; South Omaha, 1 case, imported.
New Hampshire: Manchester, June 18-25, 6 cases.
New Jersey: Jersey City, June 2-10, 2 cases, 1 case imported from Baltimore.
New York: June 18-25, Buffalo, 1 case; New York City, 1 case; Niagara Falls, 1 case.
Ohio: Toledo, June 18-25, 2 cases imported.
Pennsylvania: June 18-25, Altoona 1 case imported; Johnstown, 1 case, 3 cases in suburban districts; Philadelphia, 7 cases, 1 death; Pittsburg, 1 case.
Tennessee: Memphis, June 18-25, 8 cases.
Washington: Tacoma, June 13-20, 1 case.
Wisconsin: Milwaukee, June 18-25, 6 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, June 4-11, 1 death.
China: Hongkong, May 14-28, 5 cases, 2 deaths.
France: Marseilles, May 1-31, 4 deaths; Paris, June 4-11, 10 cases.
Great Britain: Glasgow, June 10-17, 20 cases, 3 deaths; Leeds, June 11-18, 3 cases; June 4-11, London, 21 cases; Newcastle-on-Tyne, 8 cases, 1 death; Nottingham, 3 cases; Sheffield, May 28-June 11, 3 cases.
India: Bombay, May 24-31, 16 deaths.
Italy: Palermo, June 4-11, 1 case.
Java: Batavia, May 7-14, 8 cases.
Mexico: City of Mexico, June 5-12, 5 cases, 1 death.
Russia: Moscow, May 28-June 4, 11 cases, 4 deaths; Odessa, June 8-16, 2 cases; St. Petersburg, May 28-June 14, 15 cases, 3 deaths. Warsaw, May 21-28, 23 deaths.
Spain: Cadiz, May 1-31, 1 death.
Turkey: Constantinople, June 5-12, 4 deaths.

YELLOW FEVER.

Mexico: Tampico, June 11-18, 1 case; Vera Cruz, June 26, 1 case imported from Progreso.

PLAGUE—INSULAR.

Hawaii: Honolulu, June 21, 1 case.

PLAGUE—FOREIGN.

China: Amoy, May 31, increasing; Hongkong, May 14-28, 60 deaths.
Formosa: May 14-28, 596 cases, 489 deaths.
India: Bombay, May 14-31, 109 deaths; Calcutta, May 21-28, 90 deaths; Karachi, May 22-29, 53 deaths.

CHOLERA.

China: Hongkong, May 14-28, 13 cases, 12 deaths.
India: Calcutta, May 21-28, 51 deaths.

Miscellany.

Discussion on Ankylosis of the Jaw.—In the copies of THE JOURNAL, July 2, that were first off the press Dr. Charles F. Allan, Newburgh, N. Y., is made (page 24) to speak of "chloroform and moisture" used in treatment of ankylosis. This was corrected on the press. The last sentence of the discussion should read: "Pressure under chloroform persistently applied to the patient at infrequent intervals, helped on by the daily use of the screw-opener by the patient, is the only practice that will cause return to normal conditions."

RAW OYSTERS AND TYPHOID FEVER.

Important Investigations by the New York Health Department on the Dangers of Raw Oysters.

The Department of Health of New York City has been very much interested for several years in trying to trace to their source the cases of typhoid fever that continue to occur in the city with a certain regularity, in spite of sanitary precautions. The cases are too few to be attributable to water-borne infection, and only a certain proportion can be traced to milk infection. Many of the cases occur in persons who have not been outside of New York City for a month or more before they came down with the first symptoms of their attack and yet who did not drink raw milk, or, indeed, enough of milk in any form to justify the conclusion that milk was the infective agent. For several years there has been more than a suspicion that raw oysters were responsible for a large number of these sporadic cases of typhoid fever, which kept occurring constantly in sufficient numbers to awaken uneasiness. It is true that uncooked vegetables also fell under suspicion, but in a number of cases the patient's histories showed that those attacked were accustomed to eat rather freely of raw oysters.

Accordingly the Board of Health set about an investigation of the oyster supply of New York City and especially of the treatment of the oysters after they were removed from the beds in more or less deep water, until they reached the consumer. The results of this investigation were given at the last meeting of the Medical Society of the County of New York, April 25, 1904, in a report presented by Dr. Walter Bensel, the acting sanitary superintendent of the New York City Department of Health. The details of this report are not likely to be a source of comfort or good feeling to New Yorkers who have been accustomed to eat raw oysters without any consideration for the source from which they came. In the near neighborhood of New York City, that is on the Long Island shore of the sound,

as well as on the Connecticut shore, on Staten Island, and in the Kills of New Jersey everywhere the direct connection of oysters with sewage material was traced not only as a possibility but as an actuality.

After being dredged from the beds, oysters are always carried by the oyster fishers up the small streams in the neighborhood, and then stored in oyster houses, or oyster floats, for some days before going to market. One reason for this, of course, is that oysters are usually shipped in quantities, and this gives opportunity for the accumulation of a sufficient number. Another and more important reason for storing oysters in these little creeks at various points, is that the water is not salt, but at most only brackish, slightly affected by the tides that come up the stream and oysters thus exposed to almost fresh water become "fattened," as it is called.

The normal osmosis of the oyster is disturbed by the change in the element in which it lives and the result is that it retains much more water than before and takes on a plumper appearance. It is not a bit more nutritious, the added material being water, but it is somewhat bleached and rounder, and is thus more satisfying to those who want quantity rather than quality in their food materials. The oyster epicure insists that the shellfish loses its proper and delicious savor by being thus treated, but then most eaters of oysters are not appreciative critics in this matter.

According to the photographs obtained by the inspectors of the Department of Health of New York City, very many of the oyster floats and of the oyster houses, on the floor of which oysters are stored, with water flowing over them, are contaminated by the sewage material of the little villages along the streams and by such objectionable material as the drainage from houses, from poultry yards and barns and occasionally even by the direct placing of privies and other outhouses over the stream. In some cases privies are situated within a few feet of oyster houses in which large numbers of oysters are stored and into which almost surely the sewage material from the privy vault succeeds in percolating through the always moist soil on the edge of the stream.

It is very evident that this state of affairs does not exist alone in the neighborhood of New York City, but to some extent, at least, is almost surely to be found in the neighborhood of other large cities on our Eastern coast. The population is thickest near New York, and conditions are probably worst there, but any one who really wants to be safe in the matter of eating raw oysters must know whence the oysters come and what the customs of the oyster fishermen with regard to their storage before they are sent to market really are. It would seem clear that the suspicion that a certain number of the cases of typhoid fever are due to raw oyster eating, must now give way to the certainty that a large proportion of the sporadic cases of city typhoid fever where it is known that there is no infection of the water supply must be attributed to these agents.

Meantime those who wish to enjoy the oyster without danger of contracting typhoid fever must, for the time at least, take them cooked. To those who have not been accustomed to drink boiled water it seems a hardship when first suggested that all drinking water must be boiled. The inhabitants of many towns in this country, however, have learned that their only safety is in boiling the water, and so the precious habit has been gradually formed. It is to be hoped, indeed, that an improvement in the conditions of the oyster trade can be brought about to such an extent as to ameliorate present conditions. The publication of the report comes at a time when the intervening months whose names are spelled without the letter "R" may well serve as a period for the institution of such sanitary measures of various kinds as—without inflicting too much hardship on the oystermen or the public—may secure oyster lovers against the dangers that now undoubtedly exist.

The Next International Medical Congress.—The committee of organization of the Fifteenth International Medical Congress, to meet at Lisbon, April 19 to 26, 1906, is displaying great zeal and executive ability. The first official bulletin has already been sent out, dated May 7, 1904, and contains the regulations and the list of officers for each of the seventeen sections, and of the national committees organized in each country. Dr. John H. Musser, the president of the American Medical Association, is the president of the national committee for the United States. The regulations for the sections are added, each section being requested to confer with the secretary general by September, 1904, in regard to the themes to be discussed and the names of the persons to be invited to deliver the addresses. Leading authorities in the specialty should be consulted and the same subject may be presented by one or several speakers, the number of themes being restricted to three as a rule. The preliminary program will be announced by the end of the current year, and the definite program in December, 1905. Each section is invited to send to the secretary general the names of two or three persons particularly eminent in the specialty worthy to be proclaimed honorary presidents of the congress. The honorary presidents of the sections are proclaimed at the first session of each section. The bulletin contains also an able editorial on the tendency to specialization and toward congresses devoted to a single specialty. The editorial is signed by Miguel Bombarda, secretary general, who comments on this tendency as a danger for the general progress of science and both the theory and practice of medicine. The physician must not forget that the relief of the sick patient before him is not the only task of the medical man. His rôle in society is much wider than this. He carries the lamp of truth, throwing its soft and unchanging light into the humblest homes. The human mind is so constructed that it loves to nestle in the nook it has selected for its activity, and the longer it is ensconced there the greater the effort required to come forth from it even for a moment. The effort is always made under protest and unwillingly, and nothing but an important motive will induce the scientist to step outside of his habitual preoccupations. Brains adapt themselves to habits, and there are as many brains as there are men and classes and specialties. Mankind could be classed according to habits as correctly and exactly as the classifications of zoology and botany. The large general medical congresses, notwithstanding the few days devoted to them, and notwithstanding the scattering of the members in the various sections, are always a true refreshment for the mind. However one may wish to restrict his thoughts and efforts to his specialty, echoes abound on all sides and force on his attention new facts, discoveries, discussions, addresses, new ideas, scientific excursions, etc., and the mind is inevitably drawn out of its rut and its horizon expanded. This is the grandest function of general medical congresses. Their task in bringing scientific workers together, in exchanging impressions and ideas, in the recreation from change of air and scene, the study of new countries and customs, in their widespread influence on the world at large as the conquests of science are marshaled, and disputed questions are settled, all these phases of general medical congresses are understood and appreciated by all. But their special function is to give the special sciences and those who cultivate them a refreshing bath in general science, and both the specialty and humanity at large benefit immeasurably by it. For further particulars in regard to the coming congress see page 780.

The Field of Exercise.—Jay W. Seaver, M.D., former medical examiner at Yale University Gymnasium, says that exercise may not only be classified as one of the necessities of life, like food and air, but may be looked on as a therapeutic means of very high value. Exercise may be divided into two general classes, as active and passive, the first being made up of movements that are directed by the central nervous system, consisting of such movements of the various parts as cause a complete flexion and extension of the joints with the consequent stretching of the muscles that would ordinarily produce these joint movements; and second, the muscles may be subjected to mechanical pressures and kneadings that will stimulate the circulation of both blood and lymph, and produce nutritive changes that are quite similar to those set up by active exercise. This is massage. The abnormal conditions that are best treated by exercises are those of the nervous system where there is a tendency to inertia and explosive action. The normal working of the motor portions of the brain with the at-

tendant activities of large sensory tracts will treat the entire nervous system by one of those fundamental processes that is so essential to vitality and to the smooth or well co-ordinated functions of the brain. The utilization of nerve force through these normal channels will usually prevent the explosive action of the nervous system along abnormal lines. We see a good illustration of this in the restful sleep that follows a hard day's work of physical activity, and the opposite effect in the restless, fitful sleep where the day's work has been of an intellectual character and accompanied by no physical activity that has, so to speak, called the brain back to its fundamental processes. The second great class of cases that are benefited by exercises includes cases of malnutrition. There seems to be no power that so thoroughly calls into activity the nutritive processes of the body as does the reflex demand for more nutrition on the part of muscular tissue that is working. Digestion is immediately improved, and, if the nervous system is at rest the vegetative processes of life are most effectively stirred by the claims of the muscles, which constitute over 40 per cent of the weight of an ordinary person. The third class of cases that are especially helped by exercise includes those in whom the circulation is deficient from one cause or another. It has been shown by students of physiologic problems in recent years that many of the so-called violent exercises produce a lowering of blood pressure, and it has been noted for some time that people with heart lesions were able to do much physical work with apparent benefit to their health, while such persons remaining quiet and sedentary in their habits of life have suddenly found that the compensation in heart energy has not balanced the loss through the lesion, and sudden heart failure has been the termination of life. But not only does appropriate exercise act favorably on the weak heart, but the lymphatic flow is almost entirely dependent on muscular contraction, and the nutrition of the various tissues apears to depend more on the lymph than on the blood directly, so that if we have inadequate central power to force the fluids of the body along in their course, we must depend more and more on the movements of skeletal muscles to accomplish this work.

Priority and Scientific Discoveries.—The *Journal of Tropical Medicine* contains some sensible comments on the frequency with which the question of who discovered a microbe or enunciated a theory causes heartburn and bitter recrimination. It says: "The friends of the claimants range themselves with the hero of their belief in opposite camps, and assail their opponents with vigor. Not infrequently the question of nationality comes up, and, when that element is introduced, the acrimony of a home or family squabble may be less, but only to give place to a sullen and defiant attitude combined with a comprehensive sneer at the whole nation, its people, their customs, and especially their scientific effrontery. It is a time-worn saying that science knows no nationality; that may be so, but it is to be feared that there are but few scientists whose horizon is not only limited to their nation, but even to their city, their parish, their university, to themselves, in fact. . . . The facts are that few men have personally evolved an original conception and worked it out to a conclusion. In tropical medicine we are in the midst of questions of the kind. A complete piece of work like Manson's filarial investigation, in which he not only settled the habits of the parasite, but also proved that the mosquito was the carrier of the filaria to man, has seldom, if ever, been surpassed in importance or in scientific acumen. Koch's discovery of the cholera bacillus was merely an excellent piece of bacteriologic and microscopic investigation in comparison. . . . Since Laveran discovered the malaria parasite many workers have elaborated the pathology and etiology of malaria; others, such as McCallum, Manson, Ross, Golgi, Grassi, etc., having contributed definite and important steps in the elucidation of the behavior of the parasite and its mode of conveyance to the human body. One step has led to another, and it is difficult in some instances to ascribe definitely the part that each played in bettering our knowledge. . . . We would urge on all men to take to heart the statement of Sir Alfred Jones in his speech at the Colonial Institute, November 11. "We care not whether the work is done at the London or the Liverpool School of Tropical Medicine, in Hamburg or elsewhere, what we want is to see the work done. We are fighting a great problem, namely, how to render our colonies healthy, and we have no concern or patience with individual or national jealousies." Let us, while being anxious to accord our scientific workers all honor and to see that their contentions are fairly dealt with, never forget that many men's minds frequently travel contemporaneously in the same direction, and should one by his commanding genius or from opportunity gain the ascendancy, the matter is not one of this or that school of university or this or that individual, but whether or no the discovery or observation is a real acquisition to our knowledge and a benefit to mankind.

American Medical Association.

NATIONAL AUXILIARY CONGRESSIONAL AND LEGISLATIVE COMMITTEE.

Minutes of meeting held at Atlantic City June 8, 1904.

The meeting was called to order by the chairman, Dr. Charles A. L. Reed of Cincinnati, at 2:25, with the following present:

C. S. Bacon, Chicago; J. B. Tweedie, Westberly, Pa.; J. R. Curran, Two Rivers, Wis.; J. A. Dibrell, Little Rock, Ark.; S. D. Van Meter, Denver; C. L. Miller, Lebanon, Pa.; Frank W. Goodall, Effingham, Ill.; W. T. Halliday, Monmouth, Ill.; John T. Dickes, Portland, Ind.; I. N. Pickett, Odell, Neb.; J. B. Kent, Putnam, Conn.; Silas Presbrey, Taunton, Mass.; C. Lemker, Schuylkill Haven, Pa.; S. R. Miller, Tennessee; I. C. Gable, York, Pa.; J. H. Hawley, Burr Oak, Kan.; Joseph E. Porter, Florida; Walter Wyman, U. S. Public Health and Marine Hospital Service; E. Elliott Harris, New York City; James S. McKay, New York; George F. Comstock, New York; R. A. Marmion, Medical Director, U. S. Navy; Philip Mills Jones, San Francisco; George Cook, New Hampshire; Harry B. Walter, Harrisburg, Pa.; S. M. Gates, Scranton, Pa.; R. W. Erwin, Bay City, Mich.; C. L. Stevens, Athens, Pa.; J. C. Hall, Augusta, Miss.; M. E. Alderson, Russellville, Ky.; J. W. Bell, Minneapolis, Minn.; William E. Anderson, Farmville, Va.; John W. Parsons, Portsmouth, N. H.; W. O. Congdon, Cuba, N. Y.; H. O. Rick, Baltimore, Md.; J. C. Chipman, Sterling, Colo.; J. A. McCallum, Arkadelphia, Ark.; William H. Dudley, Easton, Pa.; Shelby C. Carson, Greensboro, Ala.; John C. Fisher, Elmira, N. Y.; J. M. Frazier, Texas; John Champlain, Westerly, R. I.; J. N. Hurty, Indianapolis; H. B. Garner, Traverse City, Mich.; Samuel T. Earle, Jr., Baltimore, and Thomas Hubbard, Toledo, O.

The Chairman's Address.

The Chairman stated that the meeting was called because it was deemed important that the gentlemen who are members of the National Auxiliary Congressional Committee of the American Medical Association should meet as a distinct body, under the auspices of the Association, and that, as a committee of the Association, it might realize its corporate existence, exchange views as to important questions of policy, and take up such business as might properly come before it.

He said, in effect, that, since coming to Atlantic City, he had become impressed with the fact that the legislative machinery of the American Medical Association is not as definitely understood as it might be, or as, indeed, it ought to be understood. The National Auxiliary Congressional Committee was organized by virtue of the general authority conferred by the constitution of the American Medical Association on the National Committee on Medical Legislation. The National Committee on Medical Legislation met a little over a year ago in New York, immediately following the adjournment of the Association in New Orleans. It was then considered necessary, for the proper performance of the duties which fell on it, that it must have helpers, as nearly as possible, in every minor political subdivision of the country.

The presidents of the respective state associations were requested to furnish lists in their respective states of one physician in each county to act in the capacity of an auxiliary committeeman. This act of courtesy, this kind office by the executives of the various state medical associations, was very generally exercised, with the result that the central national committee was promptly furnished with a list of names, numbering in the course of a few weeks some 1,600 representatives of as many different counties in the United States. Dr. Reed continued as follows:

In a few states only there has been lack of co-operation, not from any antagonism to the movement, but from a misunderstand-

ing, I am sure, as to exactly what was required. Take, for instance, the state of Massachusetts, the president of which state association felt that to furnish this list would imply certain relations beween his state association and the national association, which, in his opinion, did not exist. I believe, of course, that President Francis was mistaken in this view, and I am sure that the Massachusetts State Association is as loyal to the American Medical Association and as co-operative as any in the country. In the instance of the state of Alabama, the president of that association felt that it required some authority not now conferred by the constitution of that body to enable him to exercise this kind office. In a few other states lack of local organization was taken as a barrier to compliance with the request. But in the majority of the other states, some thirty-eight, action was taken very promptly.

We received from each of those states complete lists, and were able to go forward with the work of organization. The lists that were sent me from these various states were simply nominations; appointments were made by the national committee, from which formal commissions were issued. Under the terms of this commission these auxiliary committeemen were asked to bring the fact of their appointment to the attention of the local profession and to the attention of the community. They were asked to use their influence in furthering the interests of medical legislation, respectively, in their state legislatures and before the Congress of the United States. It presently became apparent, however, that this request that these gentlemen interest themselves in state as well as in national legislation was a mistake, and I am gratified that no specific request ever emanated from the national Association asking them to take up matters of state legislation. In the first place, each state association is provided with its own legislative machinery. In the next place, we were sending enough for them to do in behalf of national legislation, so that any work in addition would probably have been beyond their capacity, or, at least, their inclination to perform.

Now, there was another inadvertent mistake. The National Legislative Committee, in issuing this commission, stated that as soon as the list was completed a directory of the National Auxiliary Congressional Committee would be published. But on reflection, and after advising with the executive officers of the American Medical Association, this provision was reconsidered, as it was deemed inexpedient to publish a list of names which represented the strength of our legislative movement and which might expose our organization to any adverse influences that might arise. It was considered that it would be better that this auxiliary committee should sustain a more confidential relation to this general legislative movement; consequently, notwithstanding the intimation that had gone forth, the directory was not prepared. I feel that it is due the Auxiliary Committtee that this explanation should be made, and I am perfectly sure that it will concur in the better judgment of the Association and in the more mature deliberations of the Committee on Legislation itself, in the position which was finally taken.

Now, the next question comes as to the methods of work. It was the object of this committee to get behind Congress, behind the members of the National House of Representatives; behind the Senate of the United States; if necessary, behind the Executive of the United States. We felt it important that the profession should be so organised that it would shortly send its own representatives to the Congress.

The National Committee on Medical Legislation thought that it was not wise policy for it, consisting, as it does, of three members, to take the initiative in bringing the influence of the great medical profession of the country to bear on questions of pending legislation. Consequently, before the Committee on Medical Legislation took any action looking to the active exercise of this influence, it was thought wise to secure the advice of another body which had already been brought into existence, namely, the National Legislative Council, consisting of one representative from each state medical association, and one from each of the national medical services, appointed to meet in Washington and pass on questions of pending legislation. There, if you please, is exemplified the great principle of the initiative. The medical profession of the United States has been so long victimized by being placed in the position of sponsors for ill-considered measures of legislation, presented alike in state legislatures and the national Congress, that the time was ripe for formal and responsible action through regularly constituted channels. Therefore, this large committee was called into consultation on all questions of pending legislation. The conference lasted two days. A few measures were approved, while others were rejected. It was resolved to invoke the influence of the Auxiliary Committee, and through it the influence of the entire profession, only in such measures as had met with approval. The methods by which this was done was to issue the circulars that you have received—no doubt, to your annoyance—in the form of referenda. This leads me to speak a little of these referenda. They were issued to the National Auxiliary Committee, to be submitted at their discretion to their local medical societies, to be brought to the attention of local political influences, and each committeeman was requested, in turn, to communicate with his Congressman and with his Senators, and to the chairman of the committee, whether in the House or Senate, before which these bills were pending. In the case of the Panama Canal Commission an urgent request was made to forward a communication directly to the President. The details in each of these recommendation varied according to the exigencies of the case.

Now, I must first thank the gentlemen here present, and through them their colleagues, for the cordial co-operation which they have extended to the National Committee on Medical Legislation in endeavoring to bring the influence of the national medical profession to bear on questions pending at Washington.

Let me give you a few examples: Take, for instance, referendum No. 1, relating to the appointment of a medical representive on the Panama Canal Commission. This was brought to the attention of the National Legislative Committee very late. We understood we had about three weeks in which to move, and we needed all of it, for, understand, there is considerable work to do in sending out 2,000 referenda. The work was pushed as rapidly as possible. In the meantime, however, the Panama Canal Bill had been changed on the calendar and was reached nearly a week earlier than was expected. With the referendum all printed, the envelopes all addressed and stamped, there came the information that five of the commissioners had been selected. The serious question was whether to proceed or not. Long-distance communication was had immediately with Washington, with the result that we received information to the effect that it seemed worth while to try the referendum. We accordingly issued the referendum, which was mailed in one hour after the word was received from Washington. The result in some particulars was most desirable, for, within forty-eight hours after the referendum was issued, in excess of fourteen hundred telegrams were received at the White House. This showed spontaneous action, showed enthusiasm on the part of the profession all over the country; showed the possibility of concert of action. By this means this particular referendum was brought to the attention of the national executive and to every member of the Congress, both the Senate and House. You have received the report on this, as on subsequent referenda. It is, consequently, unnecessary to go over them here.

One of the most important clauses in the commission was that the auxiliary committeemen should report to the chairman of the national committee, the only course which enables your chairman to know just what was being done. It enables him, when he goes before individual Congressmen, to tell him just who in his district is interested in the proposed measure—a valuable influence. I am very sorry to say, however, that a number of our auxiliaries forgot to report to the national chairman, who is thereby placed at a distinct disadvantage. The fact, however, that out of something over seventeen hundred auxiliary committeemen there were fourteen hundred telegrams received at the White House shows that a very large proportion of this great auxiliary committee are active and vigilant; and yet your national chairman received less than twelve hundred reports from these auxiliary committeemen. We do not know who did what; we do not know just all that has been done. So it was with the second and third referenda. In this connection I may state that I have made arrangements with Senator Heyburn to send me a list of those physicians who responded with reference to the Pure Food Bill. I have received regularly a list of names of those who have been in communication with Senator Heyburn. I feel that it is important to bring to your attention this particular question, that you may realise the importance of communicating what you have done to the office of your chairman.

Now, we need a committee that is absolutely unencumbered with dead material; we want live workers. Here is a complete list of our auxiliary committeemen; it contains about two thousand names. You will observe opposite certain names are check-marks, indicating what members have responded. These lists relating to the respective states will be made up and sent to the members of the National Legislative Council, who will be asked to undertake the work of revision, taking great care to ascertain which physicians have worked and which have not, and to retain everybody who has manifested interest.

I want to call your particular attention to just one other subject. There are two members of the medical profession in the U. S. Senate—one from the state of New Hampshire and one from the state of Delaware. There is not a single member of the medical profession in the National House of Representatives. There are something over three hundred lawyers, and many representatives of the other professions, yet our own profession is not represented on the floor of the National House of Representatives. I ask that the influence of the great Auxiliary Committee be exercised in inducing members of our profession, wherever possible, to stand for Congress. You will then have secured the best possible influence in the best possible place. This is exceedingly important, and I urge it most seriously on the consideration of every man who stands as the representative of this great legislative movement in the county in which he is appointed to serve.

That brings me to another point. Do you realise that you look on yourselves as honest men? I do, and the profession at large recognizes you as honest. Do you, however, realise that you are dishonest when you accept a position to protect the influence of your profession in your county, and then fail to discharge the duties of your position? When you do that way you simply cheat your profession out of what belongs to it. If, therefore, you can not or will not attend to the duties of the position, by all means give it up to some one who will. I feel that I can talk in this personal way, because the shoes I am making do not fit any feet now on this floor. I only wish to invoke your influence in getting the seriousness of this undertaking properly understood by the profession. When that point shall have been carried, the real effectiveness of our organization will begin.

Addresses on Medical Legislation.

Dr. J. N. McCormack of Kentucky gave a short talk on "The Relations of Organization to Legislative Work." He was followed by Dr. J. A. Dibrell of Arkansas, who spoke on the "Scope and Limitations of Efforts to Secure Medical Legislation." Dr. S. D. Van Meter of Colorado addressed the meeting on "State Methods for Procuring Medical Legislation"; Dr. Henry Beates, Jr., of Pennsylvania on "The Proper Attitude of the Medical Profession as Such to Existing Political Parties."

Wood Alcohol Resolutions.

The Secretary, Dr. McKnight, Connecticut, then read the following resolutions, which were referred to the Auxiliary Committee for action by the House of Delegates:

Moved by Casey A. Wood, delegate from the Section of Ophthalmology, that,

WHEREAS, The employment as beverages of wood spirit or methyl alcohol and its various preparations is known to have been responsible for numerous deaths and many cases of blindness in this country during the past few years; and

WHEREAS, Even the breathing of confined air charged with the fumes of this form of alcohol has been known to produce blindness, it is

Resolved, That the House of Delegates of the American Medical Association, recognizing the dangerous character of wood alcohol and liquors containing it, believes that it should be placed on the list of poisons. It accordingly urges the proper federal and state authorities to take the necessary steps to protect life and eyesight from is pernicious influences.

On motion, the foregoing was reported favorably to the House of Delegates.

The report of the Committee on National Bureau of Medicines and Foods was recommended for adoption to the House of Delegates.

Dr. E. Elliott Harris, New York, brought to the notice of the committee a resolution establishing a "clearing house for medical supplies of unknown composition" that had been referred to the committee by the House of Delegates. It was voted that the measure be referred back to the House of Delegates with the recommendation that it be considered in committee of the whole.

Adjourned.

Approved: CHAS. A. L. REED, Chairman.
E. J. MCKNIGHT, Secretary.

NATIONAL LEGISLATIVE COUNCIL.

Minutes of meeting held at Atlantic City, June 6-8, 1904.

At the meeting of the National Legislative Council, held Monday, June 6, there were present Drs. C. A. L. Reed, Ohio; William H. Welch, Maryland; J. R. Currens, Wisconsin; R. T. Sloane, Missouri; E. J. McKnight, Connecticut, and S. D. Van Meter, Colorado. Dr. McKnight was appointed secretary *pro tem.*

A committee consisting of Drs. Van Meter, Currens and Sloane was appointed to draft resolutions in connection with the death of James B. Sanford of Denver, Col., late secretary of the National Legislative Council.

Standard Medical Practice Act.

In consideration of the fact that a standard medical practice act is now being considered by the American Association of Medical Colleges and the National Confederation of Medical Examining and Licensing Boards, it was voted that each of the above-mentioned associations be requested to appoint a committee of conference, consisting of three members, to meet with the sub-committee of this body, to consider the drafting of a standard medical practice act.

The second session was held June 7, Dr. C. A. L. Reed presiding.

There were present Drs. Reed, Sloane, Van Meter, Currens, Dibrell, Earle, Anderson, McKnight, Carl E. Black of Illinois and Major Borden of the U. S. Army.

Dr. E. J. McKnight was elected permanent secretary of the council.

Report on Army Legislative Work.

Major Borden of the U. S. Army presented a detailed statement of the present status of the bills now before Congress relating to the medical department of the United States Army, setting forth the efficient work which had been accomplished by the Committee on Medical Legislation in furthering the various measures now pending.

Resolutions on Death of Dr. Sanford.

The following resolutions were submitted by the committee appointed, and were adopted:

Whereas, Dr. James B. Sanford of Colorado, by his uprightness of character and brilliancy of attainment, had reached a position of commanding influence in the medical profession;

Whereas, Dr. Sanford, by virtue of his broad conception of and absolute devotion to the duties of citizenship, had reached not only an enviable distinction, but exerted a most beneficient influence in the political councils of his state and his country;

Therefore, be it resolved, That the National Legislative Council of the American Medical Association, of which body he was recently secretary, recognizes the great loss that not only the organized medical profession, but that society at large has sustained in his untimely death, which occurred at Denver, March 16, 1904.

Resolved, That these resolutions be spread on the minutes of this body and that a copy of the same be forwarded with our sincere condolence to the family of the deceased.

At the third meeting there were present Drs. McKnight, Reed, Welch, Currens, Van Meter, Earle and Harris.

Dr. Van Meter reported that the committee had been unable to agree on a standard medical act, but were ready to present what had been prepared, with the suggestion that the council consider the various drafts and from them formulate a measure to be submitted with its recommendation for adoption by the legislatures of the various states.

Dr. McKnight suggested that the council had not been asked by the Association to prepare such a measure, and that it seemed to him that some action emanating from the House of Delegates would be more appropriate. The Chairman, concurring in the suggestion of Dr. McKnight, felt that the council might with propriety consider the terms of such a proposed measure, but that before promulgating the same the whole question should be submitted to the House of Delegates. The council, under the terms of the Constitution and By-Laws, was purely a consultative body, and, consequently, it might seem to assume too much in taking the initiative in such an important step as the one now proposed.

The entire question was finally referred to the National Committee on Medical Legislation, with instructions to promulgate its conclusion ad interim to the House of Delegates for consideration at the next annual session.

The Chairman called attention to the fact that a communication relative to the establishment of a medical clearing house for the analysis of proprietary preparations had been referred to the House of Delegates by the Michigan State Medical Association, and had in turn been referred to the National Legislative Council.

On motion, the entire question was referred to the House of Delegates.

Approved: CHAS. A. L. REED, Chairman.
E. J. MCKNIGHT, Secretary.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

American Ophthalmological Society, Atlantic City, July 13.
Washington State Medical Association, Seattle, July 13-15.
Academy of Ophthalmology and Otolaryngology, Denver, August 24-28.
Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held May 12, 1904.

The Chairman, Dr. Samuel Wolfe, in the Chair.

Physicians' Bookkeeping.

DR. MORDECAI PRICE read a paper, stating that in the early years of his practice he had tried almost every kind of book for the purpose on the market, purchasing a new kind almost yearly, which became very expensive as well as annoying, after which he finally began keeping merely a list of calls, in book form, which were afterward entered separately, visit by visit in a ledger, each patient being given a page, the transferring being done either at the end of a day or a week. This method he felt was incomparably better than the book ruled thirty-one spaces (one for each day of the month), as the latter gave no room for memoranda, while in the ledger you could enter in detail the time consumed, particulars of services rendered, etc., With this method, the patient's account is concentrated, the quarterly sending out of bills is much facilitated, and if a patient asks for an itemized statement, it can be rendered in a very short time; and no matter how long standing the account it is of easy reference. Then, too, he stated this method was one which would be sustained in a court of justice, citing a case in which he had operated on a difficult case of gallstones, the patient dying, he was compelled to present his bill in the Orphans' Court, and the judge questioned the amount thereof. With the ledger kept in this form, he was able to state exactly the character of the operation and the difficulties encountered, with the result that his bill was allowed. In reference to collecting bills by legal measures, he felt, as a rule, there was very little accomplished thereby, in most cases the expense almost consuming the amount thereof.

DISCUSSION.

DR. L. W. STEINBACH felt that the method outlined would not be sufficient in court, as he stated that every entry must be

made first in a daybook. His method is to keep a visiting list, with each visit to be made marked with a dot, and when the visit has been made he makes a stroke in place of the dot. In addition, he carries a prescription blank, put up in pad form, with a stub to it, on which he enters a brief history of the patient's condition, the day, date and hour, at the time of the visit; the work at the office being entered in the same manner on a sheet, but a little more fully. The entries from these blanks are afterward transferred to the ledger. He recommended that bills be sent out every six months (not more frequently than every three months), believing that this was ample time for the regular patients, and that most of the transient patients who would pay, paid as they went along. He believed that the best method of collecting was to have accurate bookkeeping, and send out accounts every six months, recommending the regular commercial double entry bookkeeping. With the books kept in this manner an itemized statement can be furnished in very short order, if requested. He also laid stress on the importance of accurate history keeping.

DR. WILSON BUCKEY stated that it was a notorious fact that physicians were the poorest bookkeepers in the city, and emphasized the importance, at the present time, with the large increase in the number of physicians, of having the accounts kept in such a manner that they could be sustained in court. He did not feel that Dr. Price's method would be sustained in the courts, as he did not view it as a book of original entry, and recommended a combination day-book and ledger, wherein would be enumerated the detail of the services, the charge, the time spent, and expense to which the physician was put for apparatus, etc. He also said that hieroglyphics, such as "O" for office visits, or a dash or cross, etc., indicating visits, would be entirely excluded, the requisite being that it must be a book of original entry in plain writing. He believed that in many instances the doctor was his own best collector; in a practice of about a quarter of a century he had had two collectors. The method of the first was to go from house to house, and, if they could not pay him anything, get them to name a date when he would call, at which time he was sure to be on hand. The method of the second was similar. He stated that since he had discontinued driving and going out at nights, except in cases of urgency, his practice had materially decreased.

DR. I. C. GERHARD stated that he had frequently been called into the Orphans' Court to prove his claim against a decedent's estate, and that he felt the subject of physicians' bookkeeping resolved itself into three heads: 1. The easiest way to keep books. 2. The legal way. 3. The easiest legal way. He stated that there was no law on the statute books requiring that the books be kept in a certain way, and also that he did not think the judges desired to be exacting, the requirement being that the book should contain a daily entry of each visit, with the name of the patient and list of the medicine furnished, with the price which custom has fixed for the service. He stated that he had a claim ruled out in the Orphans' Court which had been kept in a 31-column book, and that in the same case an ice man had merely presented slips of paper and had his claim admitted. He recommended that a page be devoted to each patient, in which the services, etc., be entered in detail, and that the bills be sent out monthly, and believed very good results would be attained by this method.

DR. J. CARSKEN COOPER related an instance in which he had a bill reduced in the Orphans' Court from $5 a visit to $2 a visit, the judge ruling that that was the customary fee in this city, notwithstanding that the patient had previous to his death paid him $5 a visit, as the book showed no evidence of the acquiescence in such a fee by the patient.

DR. HENRY BEATES, JR., referred to the necessity for the books, showing the name of the party to be charged, the name or member of the family to whom the services were rendered, date and services in detail, charges, etc., without which the books would be useless in a court of law.

DR. A. BERN HIRSH stated that he had talked with a lawyer of large experience in Orphans' Court work, and learned that in order to secure the introduction of the books the entries must be able to speak for themselves; in other words, the entry in the book of original entries should contain the name of the person responsible for the account, the date, the place where the service was rendered, the name of the patient, the nature of the illness, the nature of the treatment, and the charge. He called attention to the fact that the loose-leaf ledge had been decided legal, and he believed that this method, with a convenient ruling, would be a time-saver to the physician. He exhibited some sample pages.

DR. LOUIS JURIST stated that he had never attempted to collect a bill by process of law. He felt that the standing of the professional man in this country was too commercial. He believed that the charge should be regulated according to the circumstances of the patient. He did not approve of attempts to collect bills by law, and believed that the best result would be obtained by keeping the books posted up regularly, sending out bills once a month, but sending to perfect strangers as soon as the services are rendered.

DR. WALTER L. PYLE deprecated a "per visit" charge, and believed that the bill should be regulated, first, by the amount of service rendered, and, second, by the circumstances of the patient. He believed the bill should be sent "For professional services rendered."

DR. WENDELL REBER felt that better results would be attained by sending out bills more frequently, believing that they should, excepting in special cases, be sent out monthly, while many of the general practitioners only sent them out once in two, three or six months. He referred to a case in which he had rendered a man a bill, for services rendered to his wife and child, at the end of the month, and that this man had requested that this be done in the future at any time any services were rendered to any of his family.

DR. A. M. EATON felt that many physicians were very reckless in the matter of sending out bills, as many sent them out only semi-annually, whereas he felt better results would be obtained by more frequent rendering. He believed that they should be rendered at not longer intervals than three months. He referred to the case of a physician who asked a friend to loan him $100. The friend requested that he allow him to go up to his office and make out some bills for him, which was done, with the result that bills for $300 were made out in less than ten minutes, over $150 of which was paid in five days. He referred to the immense amount of money which was lost by the profession. He also referred to the large number of people who were able to pay who sought free treatment at clinics., etc., which he felt should be prevented, if possible, and also the people who make a practice of not paying the physician's bill. He believed that the formation of an association, with the support of the county society, for the collection of accounts, with collectors personally calling on the debtors, would be of much value.

C. W. VAN ARTSDALEN, of the Philadelphia bar, stated that a book, to be admitted in evidence in the courts, need not be in any particular form, so long as it possessed the requisites of a book of original entry, which were: 1, That the entries be made at or about the time the services were rendered; 2, the date of the service; 3, the name of the party charged; 4, the designation of the party to whom the services were rendered; 5, the services in detail, and the charge therefor, together with the costs of apparatus, etc. In order to prove the claim in the Orphans' Court, all these requisites must appear on the face of the book, as, this being a proceeding in which the other party is dead, the claimant is not a competent witness. In a proceeding in the common pleas court against a living debtor the physician would be allowed to testify in his own behalf, and in that instance might be permitted to use a book, which, by reason of being made in hieroglyphic characters, could not be offered in evidence, as a memorandum to refresh his memory, provided the said memorandum was made at or about the time the services were rendered; but the books should always be kept in such a manner that they will possess all the requisites of books of original entry and be admissible in any court.

DR. J. THOMPSON SCHELL referred to the case of a physician who had died with a considerable amount of money owed to him, but, since no one could understand his bookkeeping, his

widow was able to collect very little. He recommended that the books be kept in such a manner that anyone could understand them, and felt that every man owed this to those dependent on him.

DR. WILLIAM H. GOOD referred to the class of patients who, after paying a physician one or two visits and running up a bill, go elsewhere, many times in addition boasting that they do not intend to pay the physician's bill. One of this character recently came under his care.

DR. FRANK C. HAMMOND said it was the custom in Augusta, in which city the profession is thoroughly organized, for each physician to have in his office a large printed card, stating the fee for each office visit, each house visit, each of the various operations, etc., below which price no physician will take a case. He considered that this consistently demonstrated the value of organization.

DR. HENRY BEATES, Jr., referred to the fact that the courts would fix the fees of a physician at such an amount as has been decreed by custom. He urged the necessity for the protection of the regular physicians by statutory enactments calculated to rid the community of illegal practitioners. He believed that the profession should receive more and higher recognition, which could best be obtained by protective legislation and the eradication of the irregular practitioners.

AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION.

Seventh Annual Meeting, held in Atlantic City, June 6 and 7, 1904.

(*Concluded from Page 71.*)

The President, Dr. S. J. Meltzer, New York City, in the Chair.

The president, in his address, gave a historical review of the association since its inception, in 1897, described its aims and made suggestions for the future conduct thereof.

In the symposium on gastric ulcer, "Medical Treatment" was read by Dr. S. W. Lambert, New York, who recommended rest in bed and rectal feeding by means of predigested foods, eggs, milk, meat, broths, etc. When feeding by the mouth is resumed, it must be begun on peptonized milk and gradually increased similar to the method pursued in feeding infants during the first two years of life. Owing to the tendency to recurrence, prophylactic living and diet must be insisted on after cessation of treatment, particularly slow eating, thorough mastication and avoidance of alcohol and highly-seasoned food. He also considered the complications, such as constipation, hyperacidity, anemia and gastric hemorrhage, and the value of bismuth, nitrate of silver and iron.

DISCUSSION.

DR. JOHN W. BELL, Minneapolis, advocated complete rest of the stomach for a sufficient length of time to allow the ulcer to heal, and, when feeding by the mouth is resumed, a well-cooked cereal was recommended rather than milk.

DR. F. H. MURDOCH, Pittsburg, Pa., recommended that the milk be boiled and taken in teaspoonful or dessertspoonful doses, so that a glass will be consumed in fifteen or twenty minutes. He also emphasized the value of bismuth, and stated that he had continued the liquid diet in some instances as long as six, seven or even nine months.

DR. T. KAUFFMANN, New York, urged the necessity for more frequent operation in chronic ulcer and did not believe we should wait for hemorrhage to make the diagnosis.

DR. M. MANGES felt that the reason for the failure of bismuth in some instances was due to the fact that it was not given in large enough doses.

DR. FENTON B. TURCK referred to experiments on dogs, in which the fistula in the gastroenterostomy had closed in many instances. He recommended that the nutritive enemata be introduced as high as possible, in order to facilitate absorption.

DR. MAX EINHORN, New York, stated that he did not employ rectal feeding except in severe cases; nor did he think it necessary to peptonize the milk. He also referred to internal galvanism as a therapeutic agent of value.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns without allusion to inquirer.]

Gastric Fermentation.

Merck's Archives recommends the following:

℞. Carbo ligni		
Bismuthi subnitratis, āā	gr. v	30
Resorcin	gr. ii	12
Pulv. aromatici	gr. i	06

Sig.: Give at one dose one hour after eating.

Infantile Colic.

Rotch recommends:

℞. Sodii bicarbonatis	gr. xl	2|70
Spts. ammon. aromatici	m. xl	2|70
Glycerini	m. xxx	2
Aquæ menthi pip.	℥ii	60

M. Sig.: Teaspoonful between feedings.

Gastric Ulcer.

Lenhartz and Wagner prefer to give proteid food at once, even when there has been severe bleeding, rather than feed by the rectum. This treatment was first suggested to Lenhartz by the good results obtained in the gastric disturbances of chlorosis, by means of a plentiful proteid diet. In these cases the hyperacidity and anemia disappeared. Since these same conditions existed in gastric ulcer, it seemed rational that the same line of treatment be followed. The results were excellent, the patients returning to work much sooner, no unfavorable complications followed, renewed hemorrhages have not been more frequent than in cases treated otherwise.

METHOD OF FEEDING.

On the day after the hematemesis the patient is given 300 grams of ice-cold milk and one raw egg well beaten up. During the first week this daily allowance is increased by 100 grams of milk and one egg every day. The author advises not to give more than one liter (1 quart) of milk for fear of stretching the stomach. Beginning with the sixth day raw scraped beef is given, from 35 grams upward; after the second week well boiled rice, farina and toast are permitted; after three to four weeks a mixed diet. He also gives 2 grams (30 grains) bismuth subnitrate in suspension, three times daily during the first ten days; later this dose is cut in half, and Blaud's pills are given, pulverized, if necessary.

Buckingham, in the *Boston Med. and Surg. Jour.*, reports very good results in gastric ulcer from rectal feeding and absolute rest in bed. The rectal enemata consisted of one egg, eight ounces of peptonized milk and ten minims of deodorized tincture of opium every six hours, one cleansing enema daily. Nothing was given the patient by mouth for three weeks, except small pieces of ice.

Diarrheas in Infancy.

Rotch, in *Amer. Med.*, regards the treatment of these conditions as still largely empirical, but believes it can usually be determined whether the large or small intestine is affected. The best success is obtained if the treatment is given by mouth, when the small intestine is the seat of disease, and by rectum when the large intestine is affected. He also differentiates the group of cases with marked fermentation and little local lesion and ileo-colitis class of cases when the lesions are more or less decidedly marked. No specific remedy or intestinal antiseptic has been found to absolutely kill the organisms or neutralize their toxins. Clear the intestines of bacteria

by laxatives, support the strength, combat nervous symptoms and hyperpyrexia are the chief indications. Of the drugs he recommends bismuth. He believes there are possibilities in the future for serum treatment, but at present it is not successful.

The following combination has been recommended after the alimentary canal is free of all irritants:

B.	Bismuthi subnitratis	3ii	8
	Salol	gr. xvi	1
	Aquæ cinnamomi	ʒi	30
	Aquæ q. s. ad	ʒii	60

M. Sig.: Shake well. Teaspoonful in water every two hours.

For diarrhea in infants with green stools:

B.	Hydrargyri chloridi mitis		
	Pulveris ipecacuanhæ, ää	gr. i	06
	Sacchari lactis	gr. xx	1 30

M. Chart. No. x. Six.: One powder three times a day.

Diarrhœa.

Hemmeter has found the following formula useful in putrefactive diarrhœa:

B.	Tannigen	3i	4
	Bismuthi subgallatis	3ii	8
	Salol	gr. xxiv	1 55
	Ext. opii denarcotized	gr. iii	20

M. Ft. capsula No. xii. Sig.: One capsule every two to four hours.

The following formula has been recommended in the serous form of diarrhœa after the bowels have been cleared of all irritating matter:

B.	Bismuthi subnitratis	gr. xx	1 30
	Tr. kino	ʒss	2
	Tr. zingiberis	m. x	65
	Tr. cardamon co. q. s. ad	ʒii	8

M. Sig.: Give at one dose in water every two to four hours.

If much pain is present tr. opii camphoratæ ʒss (2 c.c.) may be added to the above mixture.

Constipation.

MEDICINAL TREATMENT.

The following prescriptions are recommended when medicinal treatment is required:

B.	Aloes purificat	gr. xx	1 30
	Ext. belladonnæ	gr. iv	25
	Ext. nucis vomicæ	gr. v	30
	Oleoresinæ capsici	gr. ½	25

M. Ft. pil. No. xx. Sig.: One pill at bedtime.

The following is claimed to cure habitual cases:

B.	Ext. cascaræ fluidi (tasteless)		
	Ext. glycyrrhizæ fluidi ää	ʒi	30

M. Sig.: A teaspoonful at bedtime.

For atony of the bowel it is recommended to use:

B.	Ext. rhamni purshianæ	ʒi	4
	Ext. nucis vomicæ	gr. viii	50
	Ext. physostigmatis	gr. ii	13
	Ext. hyoscyami	gr. v	30

M. Ft. pil. No. xxx. Sig.: One pill night and morning.

FOOD.

The condition of constipation is so common in practice that the physician pays little attention to his patient's remark: "My bowels are always constipated," except to reply: "I will give you some laxative pills to use as you need." Patients can be very much benefited by attention to habits of living, and habits of eating and drinking. Cohen, in his "System of Physiologic Therapeutics," regards the diet as important as any other part of the treatment. He suggests: A certain bulk of fecal matter is necessary in the intestines in order to produce sufficient peristalsis for the bowels to perform their normal physiologic function. A diet rich in meat and eggs and poor in vegetables, fruit, and water will leave very little residue in the intestine. Therefore, foods should be taken which contain a large amount of cellulose; this remains undigested, fills the intestine and excites in it a peristaltic activity.

Vegetables that are most laxative are tomatoes, spinach, lettuce, asparagus, Spanish onions, cabbage and celery.

Of breads and cereals, oatmeal, cornmeal and wheaten grits are the best. Breads made of coarse flour are to be preferred in aiding to overcome constipation, e. g., graham, corn, rye, oats, and whole wheat meal. Bran bread is especially efficacious. It is made by adding bran to ordinary flour in as large proportion as is compatible with the making of good bread. Ginger bread and Boston brown bread are laxative, but may provoke gastric indigestion.

Honey, molasses and coffee are useful in lessening constipation. The addition of sugar and cream to coffee will sometimes retard gastric digestion and counteract the stimulating effect of coffee on the bowel.

Fruits are laxative because of either the sugar they contain, the fruit acids or their irritating skins and seeds. Strawberries, blackberries, raspberries, gooseberries, blueberries, currants and grapes are effective partly because of their seeds and partly because of their fruit acids or acids produced in digestion. Apples, pears, peaches, plums, cherries, oranges, and grape fruits are chiefly laxative because of their sugar and fruit acids. Prunes, figs, raisins and dates have beside these a skin or seeds that act as a local irritant. Fruit produces the best effect when eaten alone on an empty stomach. Fruits cooked in syrupy preparations are less effective.

THE NEED OF FLUIDS.

The author further states that constipation may result on account of the failure to take sufficient fluid to keep the intestinal contents soft or to form the intestinal secretions as abundantly as is needed. Slight constipation may often be relieved by taking a glass of cold water the first thing in the morning and the last thing on retiring. The water stimulates secretion and peristalsis, the rectum is filled with fecal matter and within an hour after breakfast the desire to defecate is provoked. Hard water constipates, unless there is enough magnesium or sodium sulphate to make it laxative. Water containing much organic matter may produce diarrhœa. An average adult should drink from 5 to 8 glasses daily. Grape juice and sweet cider are loosening to the bowels.

Medicolegal.

Mental Pain Inferable.—The Court of Civil Appeals of Texas holds, in Galveston City Railway Co. vs. Chapman, a personal injury case brought by the latter party, that mental pain may be inferred from the existence of physical suffering.

Prerequisites to Payment for Services in Epidemic.—The Court of Appeals of Kentucky says, in Laurel County Court vs. Pennington, that for necessary medical attention and services rendered during the prevalence of epidemic diseases, physicians appointed as health officers for cities, towns and counties, as provided by Section 2060 of the Kentucky Statutes of 1899, may be compensated by the councils, trustees, or county courts of the cities, towns, or counties where such epidemics occur. But where the persons receiving the benefit of such services are able to pay therefor, it would seem that the physicians must look to them alone for compensation. Moreover, the court thinks that, in this, as in all other cases where it is sought to recover on an account which is denied, the burden of proof is on the plaintiff, and it holds that as the physician by whom this action was brought failed to establish the insolvency of the persons for whom he rendered the medical services and furnished the medicines and other things charged for, the verdict to that extent was unsupported by the evidence. It also holds that as it was not clear from the evidence how much of the services charged in certain items of the account were rendered in enforcing quarantine or other sanitary measures to prevent the spread of the smallpox, the verdict and judgment in the physician's favor should have been set aside and a new trial ordered.

Death from Self-Administered Drug.—The Supreme Court of Louisiana says, in the case of Brignac vs. the Pacific Mutual Life Insurance Co., that a clause in a life insurance policy reading, "If I die by my own hand or act, voluntary or involuntary, sane or insane," is a mere ordinary suicide clause, and is not violated by an act done without suicidal intent.

The pronounced leaning of our jurisprudence is against finding that there has been suicidal intent, where the facts will possibly admit of a different construction. In reaching their conclusions as to whether a person has committed suicide, courts are not tied down by the rigid rules of the criminal law. They are authorized to act on circumstantial as well as direct evidence. The presumptions on which they act are weighty, precise and consistent. The death of a person resulting from morphin administered by himself is in one sense death from his own hand, but it is not necessarily suicide. For example, if in this case the drug was taken by the insured for the purpose of obtaining relief, while in one sense it could be said that he had "come to his death by his own hand," it could not be said that he had committed "suicide."

Right to Establish Clinic and Hospital.—The Supreme Court of Louisiana holds in the case entitled the Succession of Hutchinson, that the establishment and maintenance of a clinic and a hospital for the sick is not ultra vires or beyond the corporate powers of the Tulane University and of its board of administrators; the university having special authority to teach medicine, and the evidence showing that a hospital in which clinical instruction can be given is an absolutely necessary adjunct to medical teaching. It says that if a hospital is indispensable to a medical school, can any one in reason say that the authority to establish and maintain a medical school does not include authority to establish and maintain a hospital? A hospital used for such purposes is an educational institution. Realizing the force of the foregoing, counsel were driven to argue that the medical department of Tulane is already sufficiently provided with clinical opportunities by having access to the Charity Hospital, and that, therefore, a hospital is unnecessary, and the establishment and maintenance of one is ultra vires. But that argument, the court declares, can hardly be serious. As well might it be argued that the university has no need of a library of its own because it has access to the Fisk and Howard libraries. As very well observed in one of the briefs: "Any institution organized by law to teach medicine has, as necessary incident thereto, the right to set up and maintain a hospital in order to afford its students opportunity for the study of disease and injury, to be instructed at the bedside of the patient. A medical school has as much power and authority to have a library of living disease as a literary school has the right to have a library of books. It requires no special legislative authority to build a house, set up beds in it, and invite sick people to come there and be treated. It requires no special legislative authority to buy books and place them on shelves to be read." And the court itself further holds that it requires no legislative authority to set up and maintain a private hospital.

Sufficiency of Reporting Births by Mail.—The First Appellate Division of the Supreme Court of New York affirms the decision of the Appellate Term, in the case of the Department of Health of City of New York vs. Owen, reported on page 332 of THE JOURNAL, Jan. 30, 1904. Sections 1237 and 1239 of the Greater New York charter requires physicians to keep a register of births in which they have assisted professionally, and to report a written copy of the same to the department of health within ten days after any birth. The penalty for violation is a fine of $100. It was contended that to relieve themselves from the penalty the duty is imposed on physicians of personally filing the required certificates. The court, however, denies this because, it says, the opinion rendered by the Appellate Term fully covers the point, and it agrees with the views therein expressed that the construction for which the department of health contended could not be sustained, and that a physician complies with the statute when he has properly made out a certificate and has mailed it, properly directed, to the department of health. To this it adds that, although the statute does not require that the certificate should be taken in person by the physician to the board of health, it places the burden on him, where it does not appear that the certificate was filed with the board, of furnishing the evidence of its having been properly and duly mailed, if he would escape the penalty imposed for the omission to comply with the provisions of law. Two of the five members of the court dissent. One of these, Presiding Justice Van Brunt, declares that the statute was in no way complied with. The other, Justice Laughlin, says that he is of the opinion that the legislature intended to make it the duty of a physician to see to it that a copy of the entry in his register concerning a birth reaches the department of health within 10 days. Of course, it is not necessary that he should present it in person. He may employ the mails, or any agency, for the purpose of transmission; but in that event he must, by inquiry or otherwise, ascertain that it has reached its proper destination within the time prescribed therefor by the statute. The language employed is fairly susceptible of this construction, and the efficiency of the statute requires it. The construction given in the prevailing opinion opens the door to collusion and corruption, and will render the law ineffectual. Physical or mental inability to comply with the law would doubtless be a defense to a prosecution for the penalty but in the absence of such disability it was clearly competent for the legislature to require an individual practicing a profession requiring a license to perform, as a condition of his right to practice his profession, an act manifestly justified by public policy, and essential to the enforcement of the criminal laws and to the establishment, preservation and enforcement of personal and property rights.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

June 25.

1 *Abdominal Pain from Unsuspected Irritation at the Internal Hernial Ring. C. G. Stockton.
2 Primary Typhoidal Cholecystitis, with Calculi. F. T. Stewart.
3 Pathologic Increase of Uric Acid. E. E. Smith.
4 Primary Streptococcal Membranous Laryngitis in an Adult. S. Mc. Hamill.
5 Lithiomercuric Iodid. R. C. Rosenberger and J. W. England.
6 Larynx in Beginning Pulmonary Tuberculosis. W. G. B. Harlan.
7 Three Points of Interest Concerning Smallpox and Vaccination. B. Kohn.

1.—See abstract in THE JOURNAL, vol. xlii, p. 1441.

Medical Record, New York.

June 25.

8 *Foreign Bodies in the Eye and Their Removal with the Electro-magnet. W. B. Marple.
9 *When and How Shall We Operate for Prostatic Hypertrophy? Willy Meyer.
10 *Case of Hyperpyrexia with Recovery. H. W. Wood.
11 Nail in the Deep Urethra. G. Frank Lydston.
12 Chemical and Physiologic Action of the Potassium Chlorate and Iron Mixture. W. E. Dreyfus.
13 Case of Turpentine Poisoning. E. D. Newman.
14 Simultaneous Occurrence of Typhoid and Malarial Fevers in the Same Patient. V. E. Watkins.

8. Foreign Bodies in the Eye.—Marple discusses the removal from the eye of those foreign bodies that are susceptible to electro-magnetic attraction, such as iron and steel. He reviews the history of the use of the magnet for this purpose, its first use dating back to about 1600. The large magnet constructed by Volkmann is much lighter and more easily handled than the Haab magnet, and it is also more powerful. The magnet is used for two purposes—first, as a means of diagnosis; second, for the removal of the foreign body. The author describes the technic and cites a number of cases from which he draws the following conclusions:

1. An eye in which a piece of iron or steel is buried invariably deteriorates, and ultimately becomes blind (siderosis bulbi) if the foreign body is not removed, unless it becomes completely encapsulated. In many cases this degeneration is preceded by the symptoms of hemeralopia.

2. If the foreign body is in the anterior segment of the eye, the Haab magnet is almost universally used, at least to get the particle into the anterior chamber.

3. The injury in the great majority of cases, when it is in the anterior segment of the eye, is not attended with a prolapse of the iris, and the occurrence of this complication makes it probable that the foreign body has not penetrated the globe. This symptom, however, is not a reliable one in case the foreign body has made a large or irregular wound in the eye.

4. If the foreign body has penetrated into the vitreous or posterior part of the globe, localization either with the siderocope, or *x*-ray, had better precede any attempt to extract it, especially if the lens is still transparent. After the particle has been localized it

can be removed by way of the anterior chamber with the Haab magnet, or by opening directly into the sclera near where the particle has been located. As to which is the better method to be employed in this class of cases, is still a matter of discussion among ophthalmologists.

5. If the symptom of pain can not be elicited with the Haab magnet, this is to be interpreted as evidence (a) that there is no foreign body in the eye, (b) that it is enveloped, in recent cases, in a fibropurulent exudation or a blood clot (Fehr's case), or (in less recent cases) that it is firmly encapsulated, (c) that it has passed entirely through the globe and is lodged partly or wholly in the orbital tissues (double perforation).

9. **Prostatectomy.**—Meyer discusses the indications for operation, and also the technic. He says that the catheter should have a very limited scope, and that the regular use of the catheter by the patient should no longer be a routine advice. Patients who can get along well with the catheter introduced once or twice in twenty-four hours, following out the strictest antiseptic precautions, may resort to its use. For the rank and file of prostatics, an operation should be suggested. The catheter should not be given the first place in the list of remedies used in the treatment of prostatic hypertrophy. It should be our last, instead of our first, resort—in the average case. As a general dictum he would say, advise operative intervention in every case as soon as regular catheterization becomes necessary. As to the method of operation, the choice would lie between prostatectomy and galvanocaustic prostatotomy (Bottini's operation). Prostatectomy is the most radical and the most surgical procedure. It should command first place in the treatment of the hypertrophied prostate, especially since the perfection of the technic of the operation, which has reduced the mortality to less than 5 per cent. The perineal route is preferable to the suprapubic, although in the average case the choice of the route will hinge on the question of preservation of sexual power. The patient's general condition, and not his age, furnishes a contraindication to operation. Where the effects of the general anesthesia are feared, spinal anesthesia is indicated. If the operation with the knife be refused or contraindicated, Bottini's operation should be advised.

10. **Hyperpyrexia.**—Wood reports a case, a well-developed male, showing no evidences of hysteria or of a neurotic diathesis, in which the temperature reached 112 F., respiration 90, pulse 140. The patient was comatose and could not be aroused at all. The patient was treated hydrotherapeutically and recovered. In addition to the symptoms mentioned, there were chilly sensations, a dull headache and aching of the muscles of the back and calves of the legs. No diagnosis was made.

Medical News, New York.

June 25.

15 Iodin and Mercury to Combat Local Infections. A. Stabler.
16 A Brief Report of Four Years of Genito-urinary Work in the Second Surgical Division of Mt Sinai Hospital. (Concluded.) H. Lilienthal.
17 *The Tracheal Traction Test as an Aid in the Recognition of the Asthmatic Lung. A. Abrams.
18 *Acute Thyroidism Following Curettage. D. H. Wells.
19 New Slidebox; Also a Method of Recording Imbedded Tissue. W. R. Dunton, Jr.

17. **Tracheal Traction Test.**—Abrams' method consists in percussing the manubrium sterni, first with the chin approximating the sternum, and then again when the neck is extended forcibly on the sternum. In the former instance the percussion note is resonant, or even hyperresonant; in the latter posture it is dull, or even flat. The alteration in the percussion tone occasioned by the change in position is not confined to the manubrium sterni, but extends to the lung areas on both sides of the latter. He calls this the tracheal traction test, and finds it present invariably in health, in all lung affections, except idiopathic bronchial asthma—it is positive in symptomatic asthma—thus affording a valuable aid in the differential diagnosis of symptomatic and idiopathic asthma. Abrams assumes that a positive reaction with this test denotes contraction of the bronchial muscle consequent on stimulation of the vagus. When this muscle is in a state of contraction the air in the trachea and bronchi is under considerable tension, the pitch becomes higher and the volume and intensity so decrease that, while percussion formerly yielded resonance, the same act now yields a dull, or even flat, sound. The negative results obtained in idiopathic asthma warrant the conclusion that in this disease the tonicity of the bronchial muscle is so reduced that it no longer responds to stimulation of the vagus.

18. **Thyroidism Following Curettage.**—Wells reports a case of this kind in a woman aged 53. She had passed the menopause, but for six months had frequent small bleedings from the uterus, which was of normal size and freely movable. For years there had been a slight enlargement of the right lobe of the thyroid, an excitable, rapid pulse, slight tremor, but no exophthalmus. Curettage was performed under nitrous oxid-ether anesthesia. Microscopic examination of the scrapings showed only a moderate grade of endometritis. Six hours after the operation the patient was flushed, tremulous, nervous, with a pulse of 130 and temperature 100.5 F. These symptoms increased in severity, the pulse rising to 178. There was also profuse sweating, a watery diarrhea, marked irritability of the bladder, with polyuria, râles all over the chest, and vomiting. The thyroid was perceptibly enlarged, especially on the right side, and presented a quite apparent thrill. There was marked throbbing of the heart and large arteries. Blood examination showed no leucocytosis and no typhoid reaction. The toxic symptoms continued until the twenty-fourth day, when the patient began to improve. The treatment was purely symptomatic. The heart action and general condition was not benefited by any drug; in fact, medication apparently did more harm than good.

New York Medical Journal.

June 25.

20 *Albuminuric Retinitis. L. W. Fox.
21 The Carbohydrates as Etiologic Factors in Stomach Disorders. W. E. Deeks.
22 The Fever of the Puerperium (Puerperal Infection). (Continued.) J. H. Bartenshaw.
23 A Plea for a Truer Therapy—Real Treatment of the Sick. W. C. Abbott.

20. **Albuminuric Retinitis.**—This symptom of chronic interstitial nephritis is found in about 30 per cent. of all cases, and is nearly always bilateral, even when only one kidney is affected. Fox divides albuminuric retinitis into two forms, acute and chronic. The former is characterized by swelling, congestion, hemorrhages and phenomena suggestive of acute inflammation, while the latter is attended by hemorrhages and numerous dirty white spots. The subjective symptoms are few and not very distinctive, headache and loss of vision being the most prominent. Bright's disease may be associated with blindness without perceptible structural changes in the retina. The iris and choroid may be inflamed, and opacities of the lens, palsy of the extraocular muscles, particularly the superior oblique and the external rectus, are by no means rare. Subconjunctival hemorrhages may occur, usually during the night, and he considers them premonitory symptoms of kidney disease and due to disease of the vascular channels. Retinal detachment and folding of the retina, particularly in that form accompanying pregnancy, are seen sometimes. The ophthalmoscopic appearances are characteristic. The arteries are changed in size, either larger or smaller, and tortuous. There is a loss of translucency. White stripes are found along the vessels, due to degeneration of the walls or infiltration of the circumcorneal lymph sheaths. The veins are tortuous, alternately contracted and dilated, and show evidences of an impeded venous circulation. The mechanical pressure may be exerted by a diseased artery. The venous walls are subject to the same changes as those of the arteries, resulting in white stripes and varicosities. Grayish opacity near the disc, or whitish spots scattered through the fundus, following the lines of the vessels, indicate retinal edema. Hemorrhages are frequent and manifest themselves as linear extravasations along the course of the blood vessels, rounded infiltration and subhyaloid hemorrhages. Absorption of the hemorrhage and subsequent atrophy is shown by the yellowish or whitish-yellow spots that are scattered throughout the fundus. At a short distance from the margins of the optic disc it is by no means uncommon to perceive coalescence of these spots, forming a broad encircling zone designated as the "snow bank" of retinitis albuminurica. The pathology of these patches may be said to consist of fatty degeneration of the fibers of Mueller and of the granular layer, together with round-celled infiltra-

tion and hypertrophy of the nerve fibers. The condition known as albumosuria, described by Bence-Jones, is attended by fundus changes similar to those seen in retinitis albuminurica. It is necessary to examine the urine for albumose as well as for albumin, in order to differentiate between the two conditions. As to prognosis, Fox says that vision is nearly always impaired or lost, according to the number, extent and situation of the hemorrhages. The outlook as regards life is very grave. Most patients die within two years, yet he has seen one case that lived seven years after the retinal changes were detected. When the disease occurs in patients over 50 years of age its course usually is less rapid than in younger individuals. If the hemorrhages of the retina are associated with fatty or colloid deposits, in a patient between 30 and 40 years of age, death may be expected in from three to five months. The retinitis that follows pregnancy and the infectious fevers is more favorable as regards life. As soon as the condition is recognized general treatment, such as indicated in nephritis, should be begun. For the anemia, Basham's mixture, given in doses of 1 to 2 drams every three hours, is the most applicable. Strychnin, in doses of 1/60 to 1/30 gr. three times daily, and gray powder 1 to 2 gr., and gallic acid 10 to 15 gr., three times a day, are beneficial in absorbing the hemorrhages and the exudate. Free purgation and diaphoresis are especially advantageous. Eliminate from the diet all foods rich in albumin. The personal hygiene should be looked after. Decapsulation may be of great service in relieving the condition.

Cincinnati Lancet-Clinic.

June 23.

24 The Education of Defectives. E. W. Mitchell.
25 Nervous Phenomena and Local Disease—Question of Surgical Intervention. E. S. Stevens.
26 Abdominal Hysterectomy and Appendectomy. E. Harlan.

Boston Medical and Surgical Journal.

June 28.

27 Some Fermentations in Medical Education. H. C. Ernst.
28 Contribution to the Pathology of Hysteria Based on an Experimental Study of a Case of Hemianesthesia with Clonic Convulsive Attacks Simulating Jacksonian Epilepsy. B. Sidis and Morton Prince.

American Journal of the Medical Sciences, Philadelphia.

June.

29 *Retroperitoneal Sarcoma. J. Dutton Steele.
30 *Traumatic Intestinal Rupture with Special Reference to Indirect Applied Force. Emanuel J. Senn.
31 *Castration for Tuberculosis of the Testicle. Charles G. Cumston.
32 *Relation of Cells with Eosinophile Granulation to Bacterial Infection. Eugene L. Opie.
33 The Envelope of the Red Corpuscle and Its Rôle in Hemolysis and Agglutination. S. Peskind.
34 Hemolysins in Human Urine. Roger S. Morris.
35 Mental Symptoms Associated with Pernicious Anemia. William Pickett.
36 Clinical and Histologic Study of the Ophthalmic Condition in a Case of Cerebellar Neoplasm Occurring in a Subject with Renal Disease. Charles A. Oliver.
37 Case of Fibroadenoma of the Trachea; with Remarks on Tumors of the Trachea in General. Sylvan Rosenheim and Maclier Wardell.
38 Case of Supposed Sarcoma of the Chest Wall Symptomatically Cured by Means of the X ray. James P. Marsh.
39 Chronic Interstitial Nephritis in the Young. Jose L. Hirsh.
40 *Kernig's Sign: with Report of Cases Where the Angle Has Been Accurately Determined. Joseph L. Miller.
41 Report of Two Cases of Volvulus of the Entire Mesentery. A. D. Whiting.
42 A Simple Method for the Reduction of Luxations of the Humerus. Eleanore Boulton.

29. Retroperitoneal Sarcoma.—Steele reports cases of sarcoma originating in the retroperitoneal space, referring to a former article (*Amer. Jour. Med. Sci.*, March, 1900). From an analysis of the reported cases, he concludes that sarcoma of the retroperitoneal space is not so very uncommon, and that it is of late years recognized that the development of such tumors has a definite symptom-complex. More reference is being made to the condition and more cases reported. It occurs more frequently in the first, fourth, fifth and sixth decades of life; 53 per cent. occurred in the interval from the thirtieth to the sixtieth year. Sex is not a predisposing cause. In four cases there seemed to be a direct relation between the abdominal injury and the tumor development. In one case the tumor grew from the wall of a retroperitoneal abscess. Its growth is rapid, and the most common point of origin is in the right lumbar region. The next is the center of the retroperitoneal space, the next the iliac region, and in six cases the tumor grew in the pelvis; in four, originated in the upper central region, above the umbilicus. In the majority of cases this is lateral. It is almost always single. It is very hard and firm in the earlier stages, but is prone to degeneration, most often hemorrhagic in character, but may be puriform or myxomatous. Metastasis occurred in one-third of the cases, most frequently in the liver and lungs. In many cases the intestines are involved, and in five cases a cystic tumor ruptured into the gastrointestinal tract or the peritoneal cavity. The most characteristic signs are the early presence of a hard or elastic nodular tumor, usually quite immovable. As it enlarges interference with the abdominal viscera is more marked. The most valuable point in the physical diagnosis is the relation of the colon and intestines to central and lateral growths, and the relation of the stomach to upper central tumors. The determination of the position of the stomach with the colon, in most cases, should decide whether or not the tumor is retroperitoneal. When this is done the diagnosis is narrowed to tumors of the kidney, adrenals, accessory adrenals, remnants of the wolffian ducts, tumors of the pancreas, aneurisms, and solid retroperitoneal tumors in the restricted use of the term. The only absolutely characteristic sign is the tendency to early degeneration, and an exploratory incision is the only certain means of determining the origin, and surgical interference offers the only hope of prolonging the patient's life. The prognosis is decidedly bad. Early diagnosis is imperative if any benefit is to be obtained from treatment.

30. Traumatic Intestinal Rupture.—Senn reports a case where slight violence in the gluteal region produced intra-abdominal laceration, the cause being a fall. Operation was successful. He discusses the condition, its pathology, the symptoms, treatment, etc., at some length.

31. Tuberculosis of the Testicle.—Cumston holds that the radical treatment for this condition should not be allowed to become obsolete, that castration has an exceedingly low mortality as an operation, and, if performed early, there is a good chance of preventing further infection. It meets the demand of the eradication of the soil breeding the disease. Conservative surgery applied to the testicle is practically useless in tuberculosis, and favors the dangers which castration tends to eliminate.

32. Eosinophile Granulation.—In this rather elaborate paper Opie finds that certain bacteria, such as those of tuberculosis and hog cholera, producing chronic fatal infection in guineapigs, cause the eosinophile leucocytes to disappear gradually from the blood. Hence, a study of the tissue removed by autopsy gives little indication of the behavior of the eosinophile leucocytes during the course of bacterial infection. During more acute infections produced by intraperitoneal inoculation the eosinophile leucocytes almost all disappear completely from the peripheral circulation within a few hours. The cells seem to accumulate in the vessels of the inflamed mesentery and the omentum, and undoubtedly undergo degenerative changes, of which the nuclear fragmentation is the most characteristic. Under the influence of severe bacterial infection, eosinophile myelocytes, together with other elements usually regarded as characteristic of the bone marrow, accumulate in the spleen and may be found in the circulating blood. This shows that these elements are derived from the bone marrow and not from the spleen.

40. Kernig's Sign.—Miller summarizes his paper as follows:

1. A maximum angle of 115 degrees gives more valuable results than does an angle of 135 degrees, as proposed by Kernig. 2. The angle obtained in any individual case depends, in part, on the force used in extending the leg, and for this reason actual measuring of the angle is not essential. 3. The sign is present in a large percentage of the cases of meningitis; it is, however, not constant, may be transitory, or only appear late; therefore, daily examination should be made for its presence. 4. It is present in a typical manner, occasionally in a number of widely different disease conditions, and for this reason it is probable that there is not a uniform cause for the sign. 5. The sign is occasionally unilateral, exclusive of cases of hemiplegia or local trouble, which might explain its unilateral presence. 6. The presence of the sign in cases of suspected meningitis is merely another factor favoring the diag-

ascites. Its absence, especially early, is not infrequent, and should not be allowed to outweigh the positive findings.

Cleveland Medical Journal.

June.

48 *Talma Operation for Ascites Following Cirrhosis of the Liver, with Report of Cases. J. H. Jacobson.
44 Chronic Prostatitis. Charles G. Foote.
45 Report of a Case of Malignant Endocarditis. William O. Osborn.
46 *Ethyl Chlorid as a General Anesthetic. Secord H. Large.
47 Acute Dilatation of the Stomach Complicating an Abdominal Operation. Hunter Robb.

43. The Talma-Morrison Operation.—Jacobson discusses the operation of omental anastomosis in cases of hepatic cirrhosis and reports three cases. He deduces the following conclusions from his study of the subject:

1. The principal cause of ascites in cirrhosis of the liver is the obstruction to the portal circulation. 2. The percentage of cures or improvements following the operation is about 49.08 per cent. 3. The operation has been of benefit in cases of hypertrophic cirrhosis without ascites and in portal vein thrombosis in cases of ascites due to cardiac disease. 4. For the success of the operation it is necessary that a sufficient number of normal liver cells be present. 5. The operation should be performed early in the disease, in anticipation of ascites, before serious complications have taken place. 6. Simple scarification of the omentum and a corresponding area on the parietal peritoneum is sufficient to secure success. Scarification of liver, gall bladder and spleen is not essential. 7. The dietetic treatment of the patient should be continued after the operation and alcohol in every form strictly avoided in the hope of stopping the destruction of liver cells and the formation of cicatricial tissue.

46. Ethyl Chlorid.—The history of the use of ethyl chlorid is noted briefly by Large, who believes it to be a safe and reliable general anesthetic for minor operations, or as a preliminary to the use of chloroform or ether in the major ones. He reports briefly a number of cases where it was used in the young, middle-aged and old without any bad effects. He sums up its advantages in: (1) Its safety and reliability; (2) simplicity of administration, and no expensive apparatus is required; (3) lack of cyanosis or struggling; (4) no unpleasantness in administration, no smothering; (5) lack of after-effects; (6) its cheapness; (7) its easy mode of transportation; (8) it can be administered with the patient either sitting or reclining; (9) it can be given in the office; (10) it is adapted to cases in which it is not desirable to narcotize the patient thoroughly, as an operation for goitery, opening of an abscess, etc., and, finally, it is valuable as a preliminary to chloroform or ether anesthesia, saving time and material.

University of Pennsylvania Medical Bulletin, Philadelphia.

May.

48 *Physiologic Areas and Centers of the Cerebral Cortex of Man, with New Diagrammatic Schemes. Charles K. Mills.
49 *Points of Resemblance Between Paralysis Agitans and Arthritis Deformans. William G. Spiller.
50 Differential Diagnosis of Single or Multiple Brain Tumors and Diffuse Encephalic Syphilis. Charles K. Mills.
51 Case of Progressive Spinal Muscular Atrophy in Which the Atrophy Began in the Extensors of the Hand and Fingers. Charles S. Potts.
52 Paraplegia Dolorosa Caused by Vertebral Carcinomata, Spinal Caries and Multiple Neuritis. William G. Spiller and Theodore H. Weisenburg.
53 Formation of Bone Tissue Within the Brain Substance. A Contribution to the Inclusion Theory of Tumor Formation. D. J. McCarthy.
54 Paralytic Chorea, with a Report of Two Cases. Carl D. Camp.

48. The Cortical Centers.—Mills' article is a demonstration of the more modern results of investigation and his deductions from these as to the physiologic areas and centers of the cerebral cortex.

49. Paralysis Agitans and Arthritis Deformans.—Spiller reports a case in which these seemed to co-exist, somewhat embarrassing the diagnosis. The question is, which of the two conditions really existed? He discusses the relation of the two and the interest of the subject as regards the nervous origin of arthritis deformans. He does not wish to claim or suggest that the two diseases are identical, but believes that there is a similarity between them that is greater than has been supposed.

Journal of Medical Research, Boston.

May.

55 *Production and Properties of Anti-crotalus Venin. Simon Flexner and Hideyo Noguchi.
56 Occurrence of Lipase in the Urine as a Result of Experimental Pancreatic Disease. Albion W. Hewlett.
57 Composition of Zygadenus Venenosus and the Pharmacologic Action of Its Active Principle. M. Vejux-Tyrode.
58 Contribution to the Study of Hemagglutinins and Hemolysins. W. W. Ford and J. T. Halsey.
59 Ragged Edges of the Small Lymphocytes. Herbert C. Ward.
60 Method of Studying the Pathology of the Bone Lesions by the X-ray. Henry O. Peter.
61 Chronic Subcutaneous Abscess in Man Containing Acid-proof Bacilli in Pure Culture. W. Ophüls.
62 Occurrence of Bacillus Pseudodiphtheriæ in Cow's Milk. D. H. Bergey.
63 A Motile Culture of Bacillus Dysenteriæ. Charles Hunter Dunn.
64 *Simple Method of Demonstrating the Presence of Bacteria in the Mesentery of Normal Animals. Albert George Nicholls.
65 Simple Method of Isolating from Water Forms Which Agglutinate with Typhoid Serum. J. G. Adami and J. A. Chopin.
66 Bacillus Isolated from Water and Agglutinated by High Dilutions of Typhoid Serum. Oskar Klotz.
67 A Hitherto Undescribed Episootic Among Rabbits and Rats, Caused by a Flagellate Micrococcus. Oskar Klotz.
68 *Study of Chronic Infection and Subinfection by the Colon Bacillus. George A. Charlton.
69 Study of the Blood of Normal Guinea-pigs. Samuel Howard Burnett.
70 *Dysentery Bacillus Group and the Varieties Which Should Be Included in It. Wm. H. Park, Katherine B. Collins and Mary Bozicevich.
71 Morbid Anatomy and Etiology of Avian Tuberculosis. Veranus A. Moore.

55. Crotalus Antivenin.—Flexner and Noguchi have succeeded in obtaining a form of antivenin for rattlesnake poisoning. The modification of venom by means of heat reduces or abolishes the activity of the venom at the expense of the hemorrhagin and, possibly, other locally acting principles. In order to produce an antitoxin for crotalus venom, an attempt was made to transform the locally active principles of this venom into toxoid modifications. That this can be effected is shown by the manner of action of rattlesnake venom that has been treated with hydrochloric acid and iodin trichlorid. By these agents it is deprived of a large part of its toxicity, while it still preserves the power to set up antivenin formation in the rabbit and dog. That an antivenin of considerable activity against rattlesnake venom can be produced in this manner, the experiments prove. Crotalus antivenin is without appreciable antitoxic power over cobra and daboia venoms, and of imperfect antitoxic power against water-moccasin venom, in accordance with the different constitutions of these venoms, the predominance of neurotoxins and hemolysins in comparison with hemorrhagin.

64. Bacteria in the Normal Mesentery.—In this article Nicholls describes his method of determining the occurrence of bacterial forms in the normal mesentery, and his means of identifying them as such. The studies appear to prove that in healthy animals the phagocytes pass out constantly to the mucous surface of the intestine, and return loaded with food particles, fat, bacteria, etc., which they deposit in the various organs. One path of entry is certainly through the lacteals and lymphatics and another may be through the radicles of the portal vein. Bacteria are soon acted on by the fluids of the body so that they can be recognized in the tissues in all stages of degeneration and disintegration. This fact is opposed to the theory that the epithelial surfaces afford protection against the entry of bacteria into the organism. The real condition is that the normal organs are not actually, but only potentially, sterile; bacteria are carried into them, but in health undergo a fairly rapid destruction.

68. Chronic Infection by the Colon Bacillus.—The conclusions of this experimental research by Charlton are given as follows:

1. In these experiments there has been developed a state of advanced anemia, not quite comparable with any of the classic forms seen in man. In some respects it resembles pernicious anemia, namely, in the very great diminution in the number of erythrocytes, the marked poikilocytosis, and the appearance of nucleated red corpuscles. 2. On the other hand, it differs from pernicious anemia in the fall of the amount of hemoglobin being parallel with the decrease of the red corpuscles; in the absence of a distinct and extensive Quincke's siderosis; in the absence of any clear evidence of inflammatory or other disturbances of the digestive tract, and of well-marked changes in the bone marrow. 3. In the advanced stage of this anemia a diffuse degeneration of the spinal cord was set up, affecting the posterior and lateral columns of the cord, in the lumbar and dorsal regions. This degeneration consisted in a fatty degeneration of the myelin sheaths of the fibers and certain changes, pigmentary, in the nerve cell bodies of the gray matter. The ventral columns of the cord and the blood vessels were unaffected. 4. Similar conditions of anemia and spinal cord degeneration could not be produced by injecting killed cultures of the colon bacillus, nor by filtered cultures. When the living cultures were acted on by pepsin, and injected intravenously, they did not differ materially in their action from the original living cultures.

70. **The Dysentery Bacillus Group.**—As a result of their studies and experiments, Park, Collins and Goodwin hold that there are at least three distinct types of bacteria that are factors in epidemic dysentery, or they may be divided into two groups—the true Shiga group and the group of mannite fermenters, the latter being divided into two types; first, fermenting mannite alone in peptone solution, the other in maltose and saccharose also. The agglutinating characteristics of these bacilli and their susceptibility to immune sera are also studied, the mannite and maltose types being more closely allied to each other than to the Shiga type.

New York State Journal of Medicine, New York.

June.

72 Cystitis: Some General Considerations. Irving S. Haynes.
73 The Selection of Apparatus for Generating the Roentgen Rays. Arthur Holding.
74 Graves' Disease. Ernest Valentine Hubbard.
75 Ergot in Surgery. Alfred T. Livingston.
76 Interesting Cases of Malaria Which Simulated Appendicitis. W. J. Hunt.
77 *Preparation of Cumol Catgut. Douglas C. Moriarta.
78 Remarks on the Treatment of Gonorrhea. G. Morgan Muren.
79 Strychnin Poisoning, with Reports of Two Cases. Annetta E. Barber.

77. **Cumol Catgut.**—Moriarta believes it unsafe for an operator to depend on commercial sterilized catgut in his surgical work, even if the same method is used by the manufacturer that is suggested by the surgeon. All catgut, in its commercial condition, contains bacteria, though the bacteria present have various degrees of virulence; some catgut contains no pathogenic bacteria. Whatever method be employed, it is essential that the gut is made sterile, that its integrity is not diminished, and its tensile strength maintained. Cumol catgut complies with all these requirements, and the only objections are the time and apparatus required for its preparation, the experience necessary, and the risk from fire, as cumol is highly inflammable. The apparatus required is a cumol boiler, an oven, two gas stoves, and a sterilizer in which to sterilize the retaining tubes. It is also desirable to have an autoclave in which to sterilize the cotton to be used in stopping the tubes and a boiler for sterilizing gloves and forceps. The catgut is cut and tied into bundles, as desired, but must not be tied tightly. It is then dehydrated in the oven for two hours at 100 C. At the end of this period place the catgut immediately into cumol heated at 100 C. Raise the heat to 165 C. and keep it there for one hour. The vapor of the cumol should be conducted out of doors by means of rubber tubing. Then expose the catgut to a temperature of 100 C. for two hours, when it is ready to be put in tubes. This must be done under the strictest antiseptic precautions, so that the catgut will remain sterile. Moriarta emphasizes the following points:

1. Purchase only cumol that has a boiling point of 165 degrees C.
2. Arrange the capacity of the cumol boiler that a quantity can be prepared at once.
3. Do not tie the catgut tightly, or it will be brittle where it is tied.
4. Place the catgut in the wire bucket, which has been previously lined with asbestos paper, so that the gut can not touch the metal; if it should do so, it will be brittle where it comes in contact with the metal.
5. Place the wire bucket containing the catgut in the oven when dehydrating the catgut.
6. Be sure that the catgut is thoroughly dehydrated, and if a very heavy gut is used, it should be left in the oven two and one-half hours, or the product will be brittle.
7. Have the cumol heated to 100 degrees C. when dehydration is finished, so that the bucket can be placed immediately in the cumol at the same temperature it was in the oven, or the catgut will be brittle.
8. Be sure that the rubber tubing, adjusted to the boiler, connects either with a chimney or runs out of doors, as the vapor of cumol will ignite, as explained before, from the flame under the boiler.
9. Boil the catgut one hour; have the oven heated to 100 degrees C., that the wire bucket and catgut may be at once transferred to the oven to drive off the cumol retained from boiling.
10. Perfect asepsis must be observed when placing the catgut in the retainers.

American Journal of Insanity, Baltimore.

April.

80 The Development of Insanity in Regard to Civilization. Robert Jones.
81 The Blood in Epilepsy: Experiments on Animals. F. Savary Pearce and L. Napoleon Boston.
82 Was He a Paranoiac? C. A. Drew.
83 *The Treatment of the Morphin Habit by Hyoscin. J. M. Buchanan.
84 State Epileptieus: A Clinical and Pathologic Study in Epilepsy. (Continued.) L. Pierce Clark and Thomas P. Prout.
85 Some Metabolism Studies. With Special Reference to Mental Disorders. Otto Folin.
86 Chemical Findings in the Cerebrospinal Fluid and Central Nervous System in Various Mental Diseases. Isador H. Coriat.
87 Report of a Second Case of Dementia Precox, with Autopsy. William R. Dunton, Jr.
88 Case of Chorea Insaniens, with Report of Autopsy. Isabel A. Bradley.
89 Intracranial Psammo-sarcoma Without Paralysis. Walter D. Derry.

83. **Treatment of the Morphin Habit by Hyoscin.**—Buchanan uses the hydrobromate of hyoscin hypodermically in doses of from 1/200 to 1/50 of a grain in the treatment of the morphin habit. The dose should be very small to begin with, 1/200 of a grain, and increased gradually to 1/100 of a grain. As morphin and strychnin are antidotes for hyoscin, no fear need be felt of producing disastrous effects. He has never seen any bad after-effects from its use. His plan of treatment is as follows: The patient is kept under observation for a few days, and the amount of morphin and cocain reduced to what will keep him comfortable, although this is not necessary. The night before beginning the use of hyoscin, 6 to 8 gr. of calomel, in combination with some vegetable cathartic, are given, and this is followed by a saline the next morning. The usual morning dose is given, but when the patient calls for morphin in the afternoon hyoscin is substituted, and from this time for thirty-six to forty hours the patient is kept under the influence of the drug, 1/200 to 1/100 gr. being given every two or three hours, according to the condition of the patient, but never enough to stupify him completely. Keep the patient in bed and supply him with a day and night nurse, so as to keep him under constant surveillance. If the pulse becomes weak or irregular, strychnin may be given, and, if necessary, a little morphin or codein is added. If there is need for a hypnotic, he gives trional or chloral hydrate, with bromid of soda. Large doses of the latter, given for a few days preceding the treatment, will allay nervousness. The after-treatment is the same as in other methods—tonics, nourishing diet and rest.

Archives of Ophthalmology, New Rochelle, N. Y.

May.

90 Sarcoma of the Chorold with Destructive Hemorrhage. F. H. Verhoeff.
91 Case of Empyema of the Right Frontal Sinus, of the Right Sphenoidal Sinus, of Both Antra of Highmore, and of the Ethmoidal Cells of Both Sides. A. L. Whitehead.
92 Hemorrhages in the Eye, Present at Birth. Edward B. Coburn.
93 Paralysis of the Associated Lateral Eye Movements, Presumably Due to Acute Polioencephalitis Superior, Ending in Recovery. H. Gradle.
94 Hereditary Ectopia Lentis, with Reports of Cases. G. Griffin Lewis.
95 Etiology and Pathology of Corneal Cysts, with Report of a Case. E. L. Oatman.
96 Hysterical Iridoplegia and Cycloplegia, with Report of a Case. Mortimer Frank.
97 *Report of a New Method for the Application of Local Anesthesia in Operations on the Eyeball and Eyelids, Especially in Trachoma. J. Guttman.

97. **Local Anesthesia in Ophthalmology.**—Guttman describes a new method of local anesthesia in operations on the eyeball and eyelids, especially in trachoma. The method is as follows: One or two drops of a 4 per cent. solution of cocain, or 1 per cent. holocain, are instilled into the conjunctival sac within about three minutes. The skin of the lids, especially the eyelashes, is washed with soap and water. He then fills a Pravas syringe holding 25 to 30 minims with the following solution: Sodium chlorid, 0.2; cocain, 0.05 (for very sensitive patients, 0.1); distilled water, 100; a fine No. 27 needle, one-half inch long, is screwed on to the syringe, which must be perfect. Anesthetize first the upper lid; turn the cartilage with a roll forceps so as to turn the retrotarsal fold toward the operator. Insert the point of the needle carefully near the upper margin of the cartilage in an oblique, almost horizontal, direction as superficially as possible, just deep enough for the opening of the needle to be covered. An assistant pushes the piston of the syringe, and as soon as four or five drops of the solution are injected a grayish-white wheal is formed, and the needle is withdrawn. This procedure is repeated until the whole lid has been anesthetized. As a rule, 15 to 25 drops will suffice for each lid. With the conjunctiva thus anesthetized, the trachoma granules become very prominent and can be attacked with the

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roll forceps more thoroughly and more systematically than by an other method. The lower lid is anesthetized in the same manner, and, inasmuch as turning of the cartilage is unnecessary, the process is much more simple. In operating on the eye-bulb for squint, etc., the solution is injected into the bulbar conjunctiva, a few drops sufficing. In operations on the external surface of the lids, infiltrate the conjunctiva as well as the outer skin. In order that edema may not mask the field of operation too much, due care should be exercised not to inject more solution than is needed.

Medical Standard, Chicago.

June.

98 The Powers and Limitations of Therapeutics. Wm. E. Quine
99 Autointoxication and Its Treatment. Heinrich Stern.
100 Smallpox: A Clinic. (Continued.) Heman Spalding.
101 Farm Inspection. J. C. Cook.
102 *Pregnancy and Appendicitis. Charles B. Reed.
103 *Tuberculosis in Children: Report of Two Tuberculous and Two Non-tuberculous Cases Illustrating Points in Diagnosis. Robert H. Babcock.

102. **Pregnancy and Appendicitis.**—Reed believes that appendicitis complicates pregnancy oftener than published reports indicate; that its effect on pregnancy can not be definitely measured, for many severe cases do not interrupt the pregnancy, while in others a much milder attack will produce this result. Many favorably situated cases form abscesses which are opened without consequent reaction, and even the perforated form, if uncomplicated and not too stormy, may act on the genitals like the symplex; but the appearance of complications, either local, systemic or metastatic, may be marked by uterine contractions and the expulsion of the fetus, living or dead. The question arises, is it desirable to produce abortion or premature labor? It should be answered, definitely and unhesitatingly, in the negative. The induction of labor is an operation fully as serious as the removal of the appendix; hence, if one must be chosen, why not the latter? In the majority of cases the uterine contents are not disturbed, and the mother is relieved from imminent danger. Make the diagnosis early, if possible, and operate at once without regard to the time of the pregnancy.

103. **Tuberculosis in Children.**—That tuberculosis in children under 10 years of age is a more frequent occurrence than is supposed usually, says Babcock, is shown by statistics. According to Cornet, Simons, Schwer and Bolz, of 2,447 autopsies on children under 10 years, dead of all diseases, 22.93 per cent. showed some form of tuberculosis. Mueller found 23.36 per cent. out of 426 autopsies. Jacobi states that in 1,045 autopsies tuberculosis was found in 14 per cent. In young children the primary seat of tubercle is in the bones, joints and lymph glands, the lungs becoming affected eventually. The symptoms often are very deceptive, and it is important to weigh the findings carefully and to make an accurate clinical examination, especially of the lymph glands of all regions, before making a diagnosis. Several cases are cited illustrating the necessity of very careful interpretation of symptoms.

Wisconsin Medical Journal, Milwaukee.

June.

104 The Diagnosis of Pneumonia in Children. W. H. MacDonald.
105 Dermatitis Exfoliativa Neonatorum. Arthur J. Patek.
106 *Actinomycosis Hominis. Report of Two Cases. Reginald H. Jackson.
107 *Hydrotherapy in the Treatment of Pneumonia. C. P. Farnsworth.

106. **Actinomyces Hominis.**—After a résumé of this subject, Jackson reports two cases, occurring in farmers, that were treated surgically. The tumor was removed with a knife and its site curetted freely. The surface was cauterized with a 10 per cent. solution of zinc chlorid and packed with iodoform gauze. Large and increasing doses of potassium iodid, up to 3 drams daily, were administered internally. The general health has improved markedly, there has been a very noticeable increase in weight, and the hemoglobin percentage has risen from 65 to 90.

107. **Hydrotherapy in Pneumonia.**—Farnsworth defends the use of hydrotherapy in the treatment of pneumonia, and cites 25 cases of varying severity that recovered under this treatment.

St. Paul Medical Journal.

June.

108 *The Operation for Mammary Cancer. Warren A. Dennis.
109 Surgical Treatment of Chronic Empyema of the Antrum of Highmore. C. E. Bean.
110 *Homicide by Picrotoxin Poisoning. Hubert C. Carel.
111 Adduction in Diseases and Injuries of the Hip. Alex R. Colvin.
112 Artificial Dilatation of the Cervic Uteri, with Demonstration of a New Dilator. Frederick Leavitt.
113 Pertaining to the Disposal of Sewage. H. M. Bracken.

108. **Mammary Cancer.**—Dennis comments on the inefficiency of local applications, hypodermic injections and the Röntgen ray in the treatment of mammary cancer, and that at the present time a cure or prolonged immunity can be obtained only through the use of the knife. The Halstead operation holds first place among surgical procedures, and Dennis details the technic of the operation at length. He summarizes his paper as follows:

1. Cancer of the breast is at first a local disease. 2. Metastases occur in only 24 per cent. of cases during the first year. 3. The complete operation has demonstrated that local recurrence can be prevented in from 74 to 82 per cent. of cases, even when many have gone a year or more. 4. The conclusion necessarily follows that if all cases were operated on within the first year we might reasonably expect 75 per cent. of permanent cures, and if within six months, a considerably higher percentage. 5. It is the duty of every physician to embrace such proper occasions as offer to educate the laity as to the dangerous probabilities inherent in every breast tumor and the necessity for early and complete surgical treatment.

110.—See editorial July 2, 1904.

Northwestern Lancet, Minneapolis.

June 15.

114 The Prophylaxis of Ophthalmia Neonatorum. George H. Thomas.
115 Non-valvular Heart Sounds. J. G. Cross.
116 A Study of the Effect of Borax and Boric Acid on the Human Body, with Particular Reference to Their Use as Food Preservatives. Charles F. Dight.

Medical Fortnightly, St. Louis.

June 10.

117 The Test-breakfast in Diseases of the Stomach, with Report of Cases. Charles D. Aaron.
118 The Importance of Diagnosis of Diseases of the Rectum. W. H. Stauffer.
119 The Prevention of Tuberculosis. George Brown.
120 Testimonies of Ancient Sepulchres on the Question of Paleolithic Man in the Western Hemisphere—A Contribution to Paleo-American Medicine. Albert S. Ashmead.
121 A Few Factors Concerning the Action of Antiseptics. Hermann Prins.

Archives of Pediatrics, N. Y.

June.

122 The Feeding and Care of Children After the First Year. Rowland G. Freeman.
123 The Albumin Content of Whey. C. G. Grulee.
124 Umbilical Cord Hernia. Martha Wolfstein.
125 Stomatitis in Impetigo Contagiosa. Edward F. Cushing.

Chicago Medical Recorder.

June 15.

126 The Evolution of the Modern Operation for Entropium of the Upper Lid. F. C. Hotz.
127 Eye Signs of Brain Tumor. William H. Wilder.
128 Neurologist or Ophthalmologist? E. J. Gardner.
129 Eye Signs in Migraine. Charles H. Beard.
130 *Removal of Pin from Lung, per Vias Naturalis, with Bronchoscope and Tube Forceps. E. Fletcher Ingals.
131 Case of Traumatic Injury of the Neck, Followed by the Formation of a Tumor of the Larynx; Operation; Recovery. John Edwin Rhodes.
132 Etiology of Acute Bronchitis. Edson B. Fowler.
133 One Reason for Preferring Urethrotomy to Dilatation in the Treatment of Strictures of the Membranous Urethra. Charles C. Miller.
134 Pyelonephritis with Pregnancy. Oscar J. Price.
135 The History of Tuberculosis and of the Discovery of the Tubercle Bacillus. Melchior Whise.
136 Supracondyloid Femoral Fracture with Complications. John E. Owens.

130.—This article appeared in THE JOURNAL, xlii, p. 1141.

Annals of Otology, Rhinology and Laryngology, St. Louis.

March.

137 Wood's Metal Casts of the Ear. George E. Shambaugh.
138 Syphilis of the Cartilaginous Septum. J. L. Goodale.
139 Case of Infective Thrombosis of the Lateral and Sigmoid Sinuses. Ewing W. Day.
140 Laryngeal Stenosis from Post-typhoid Perichondritis, Tracheotomy, Thyrotomy, Intubation—Exhibition of Two Patients. Ewing W. Day and Chevalier Jackson.
141 *Cholesteatomatous Disease of the Tonsils. Norval H. Pierce.
142 Observations on the Action of the Crico-thyroideus and Thyro-arytenoideus Internus. Jorgen Moeller and Joh. Fred. Fischer.
143 Report of a Case of Chronic Purulent Otitis Media, with Thrombosis of the Lateral Sinus; Radical Operation; Excision of Internal Jugular Vein; Recovery. Edward B. Dench.

144 Cholesteatoma with Report of a Case. William H. Dudley.
145 Lobulated Nasal Polypus Completely Obstructing Both Channels, Weighing 255 Grains. Linn Emerson.
146 The Application of Conservative and Radical Surgery to Chronic Nasal Accessory Sinus Disease. R. B. Canfield.
147 Case of Primary Involvement of the Jugular Bulb, Following an Acute Otitis Media, with Operation and Recovery. J. F. McKernon.
148 Laryngitis Hypoglottica Acuta. Charles W. Richardson.
149 Tinnitus Aurium: Etiology. W. Sohier Bryant.
150 Aneurism of Thyroid Artery. George F. Cott.
151 Spontaneous Discharge of Cerebrospinal Fluid. George F. Cott.
152 Case of Labyrinthine Disease, with Remarks. John K. Sterrett.
153 Lithemic Nasopharyngitis Due to Systemic Disturbance. J. A. Stucky.
154 Treatment of Ear Diseases and of Aural Vertigo in Particular with Lumbar Puncture. J. Babinski.
155 Case of Aphthous Laryngitis. E. J. Moure.

14.—This article has appeared elsewhere. See THE JOURNAL, xlii, title 64, p. 1594.

Illinois Medical Journal, Springfield.

June.

156 Address, Illinois State Medical Society. Relation of Our Societies to Political Boards. Carl E. Black.
157 The Powers and Limitations of the Physician as Distinguished from the Surgeon. Wm. E. Quine.
158 Clinical Experiences in Surgery of the Gall Bladder and Ducts. A. J. Ochsner.
159 Gallstones—Past, Present and Future. J. L. Wiggins.
160 Cholecystitis. M. L. Harris.
161 Case of Internal Hernia Into the Recto-colic Fossa. Albert E. Halstead.
162 Idiopathic Dilatation of the Esophagus. James B. Herrick.
163 Cystic Tumors of the Ovary. Geo. W. Newton.
164 Case of Macroid Operation Embracing Some Unusual Features. H. W. Chapman.

Transactions of the Chicago Pathological Society.

March 14.

165 A Method of Microscopic Observation by Means of Lateral Illumination. D. J. Davis.

Richmond Journal of Practice.

May.

166 Observations on Puerperal Septic Infection. Charles Jewett.
167 Fractures of the Skull. J. Shelton Horsley.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 23.

1 *The Reaction of Protoplasm in Relation to Chemotaxis. J. O. Wakelin Barratt.
2 *Unique Case of "Floating Kidney," in Which Nephrorrhaphy Was Successfully Performed; the Kidney Was Within the Peritoneal Cavity and Had a Mesonephron. David Newman.
3 *A Case of Leukaemia with Great Hyperplasia of the Spleen and Prevertebral Hemolymph Glands and with Increase of Connective Tissue in the Bone Marrow. F. Parkes Weber.
4 Note on the Antihemolytic (Hemocoale) Properties of Normal Urine. Marc A. Ruffer and M. Crendiropoulo.
5 The Deterioration of Vision During School Life. Ettle Sayer.
6 Observations on an Epidemic of Scarlatina. Bertram Thornton.
7 The Surgical Treatment of Abdominal Aneurism. R. Chas. B. Maunsell.
8 Case of Permanent Closure of the Jaw Resulting from Infantile Paralysis. W. Edward Meade.

1. **Reaction of Protoplasm to Chemotaxis.**—Barratt's paper deals with the influence exerted on cell protoplasm by acids and alkalies acting under conditions which imitate or exaggerate those under which the phenomena of chemotaxis are produced. The animal used in the experiments was *Paramœcium aurelia*. He found that an exposure of paramecia to acids or alkalies of a concentration sufficient to kill in twenty or thirty minutes does not affect the staining reaction of the organism. Prolonged exposure to acids or alkalies of higher concentration causes the well-known appearance of "accentuation" of basic and acid staining respectively, but this is a change affecting protoplasm after death, and, therefore, is a different order from that occurring in relation to chemotactic phenomena. Paramecia killed by the constant current resembled paramecia killed by acids and alkalies of minimum lethal concentration in respect to the absence of any alteration of staining reaction. The protoplasm of paramecia killed by mineral acids or by alkalies of low concentration gives no evidence of acid or alkaline reaction with methyl orange or phenolphthalein. Organisms killed by the constant current do not exhibit any acid or alkaline reaction.

2. **Nephrorrhaphy.**—Newman reports a unique case of floating kidney in which nephrorrhaphy was performed successfully. The patient, a lady, aged 37, complained of "abdominal distress." The right kidney was freely movable, and could be pushed well beyond the middle line in front down into the pelvis and upward under the ribs; but when it was once reduced to its normal position it remained there, and could not be readily disturbed unless the patient walked about for some time. Deep inspiration sometimes forced it downward, when it would shoot suddenly from the margin of the thorax toward the umbilicus. On palpation, the whole organ could easily be caught up in the hand and its form traced. On examining the kidney through the operative wound it was found to have a distinct mesonephron. There was no fatty capsule. Four sutures were inserted into the kidney, and the depth of the wound packed with iodoform gauze. The patient made an uneventful recovery.

3. **Leukaemia.**—Weber reports a case which seemed to combine certain features of pernicious anemia with those of a "mixed-cell" pseudoleukemia, in a man, aged 58. There was no history of malaria, but the patient acknowledged specific disease. The red blood corpuscles numbered 1,800,000, and the white cells 3,000 per cmm.; hemoglobin, 25 to 30 per cent. of the normal; poikilocytosis was present. The leucocytosis was due to the marked increase in the small and large lymphocytes, which comprised 50 per cent. of the total number of white cells. The polynuclear leucocytes were diminished in number almost one-half. Myelocytes and erythroblasts (normoblasts, microblasts and megaloblasts) were seen. There was also polychromatism and leucopenia. The main features of the case were progressive waxy pallor and asthenia, with maintenance of subcutaneous fat; changes in the red cells similar to those occurring in true pernicious anemia; absence of true leukemic changes in the blood; presence of slight myelocythemia and inverted proportion of lymphocytes to polymorphonuclears; no abnormal amount of pigment in the urine; pathologic changes in the hemopoietic tissues similar to those occurring in "mixed-celled" leukemia or pseudoleukemia; hyperplasia of connective tissue in the bone marrow from the shaft of a long bone; hyperplasia of the spleen and prevertebral hemolymph glands; absence of enlargement of ordinary lymph glands; absence of any reaction in sections of spleen, liver and kidneys for free iron, such as is found in pernicious anemia.

The Lancet, London.

June 23.

9 Deaths in Childbed; a Preventable Mortality. W. Williams.
10 Lymphatics of the Larynx and Their Relation to Malignant Disease of that Organ. F. R. W. de Santi.
11 *Etiology of Scurvy. M. Coplans.
12 Treatment of Tabes Dorsalis and Its Prognosis. M. Faure.
13 *Hour glass Contraction of the Uterus. T. Rendall.
14 Anaiytic Examination of Urine. A. H. Allen and A. R. Tankard.
15 Nephrectomy After Injury. H. T. Cox.

11. **Scurvy.**—Coplans reports the results of his study of a number of cases of scurvy occurring among Europeans and natives at a military camp. The subjects of these cases presented during life spongy, bleeding gums, lassitude, anemia, breathlessness on exertion, followed later by lameness, associated with synovitis and hemorrhages, with brawny indurated swellings in one or both of the lower limbs. The urine was slightly acid. There was marked poikilocytosis. There were no nervous lesions. Death resulted from cardiac failure, and on postmortem the blood was found to be fluid; there were subserous, submucous, subpleural petechiæ. The heart was thin and pale, the right side dilated, and there was excess of serous fluid in the pericardium. He believes that scurvy in adults is not brought about by the absence of any particular kind of food from the dietary, but is more probably a specific infection of bacterial origin. The food used in the camp investigated was of the same quality and kind as that used in other camps, in which there was no scurvy. In the Middleburg camp, where the scurvy existed, the sanitary conditions were very poor, and many of the patients were either old or the subject of some neuroses. The infection appears to occur through the mouth, the general system being involved later and secondarily. Food may act as a vehicle under conditions of dirty

storage or dirty preparation, and, considering that the disease prevailed in inverse proportion to the standard of personal hygiene of the individuals affected, its infectivity would seem to depend on the unsanitary habits, and, perhaps, the unwholesome occupation of those who were its victims.

13. **Hour-Glass Contraction of the Uterus.**—Rendall reports seven cases of this kind that occurred in the last two hundred cases of labor that he attended. When the woman lies on her left side, and hour-glass contraction supervenes, the fundus is high up in the left hypochondriac region and hardly can be felt. As soon as the contraction occurs, and the palpating hand perceives it at once, the uterine cavity must be explored for the purpose of removing the placenta. Chloroform should be given to mitigate pain, if its use is not contraindicated. The explanation of this abnormal muscular contraction is that in a small proportion of cases the placenta can not be detached at once by these muscular efforts, and the retracting longitudinal muscular fibers, meeting the unexpected resistance, and exhausted by their recent prolonged efforts, relapse into a state of inertia. The circular fibers, however, below the placental site, acting simultaneously, find no resistance to their endeavors and contract firmly, thereby perhaps exerting an inhibitory action on the retractive longitudinal element below them.

The Practitioner, London.

June.

16 Mediterranean Fever in Egypt. F. M. Sandwith.
17 *The Dietetic Treatment of Diabetes. Robert Hutchison.
18 Sarcomata of the Alimentary Canal; with the Report of a Case. Edred M. Corner.
19 *Leucocyte-Counts in 83 Cases of Appendicitis. The Limitations of Leucocytosis as an Indication for Laparotomy. Herbert French.
20 A Simple Method of Estimating the Number of Leucocytes in the Blood; and Leucocytosis Considered as a Guide to the Diagnosis of Appendicitis. Maurice Cazin and Edmond Gros.
21 A Review and Study of Some Recent Writing on Arthritis and Kindred Disorders. F. J. Poynton.
22 Review of Recent Neurologic Literature. Wilfred Harris.
23 Surgery of the Gasserian Ganglion. Donald Armour.
24 Acute Necrosis of the Lining Membrane of the Urinary Bladder. C. W. Dean.

17. **The Dietetic Treatment of Diabetes.**—Hutchison lays down the following dietetic treatment for diabetes: It is not safe to feed a diabetic patient up to the limit of his powers of assimilation. In mild cases allow two ounces of bread, with abundance of carbohydrate-free foods, and continue such a diet as long as weight and general condition of the patient remain satisfactory. Twice a year subject him to a period of perfectly strict diet in order to give the carbohydrate-assimilating functions a complete rest. In severe cases, when the patient excretes more carbohydrate than he takes in, it is necessary to determine the presence of oxy-butyric acid in the urine before restricting the diet. If, on the addition of a few drops of solution of perchlorid of iron, the urine assumes a dark port-wine color, any change of diet must be made very gradually, for such a patient always is in danger of coma. The carbohydrates should be reduced slowly, and bicarbonate of soda should be administered in quantities of from ½ to 1 ounce daily. If there is no improvement, it is best to abandon all attempts at a rigid diet and allow a definite quantity of carbohydrates in the form of bread and milk. If the perchlorid reaction is negative, the strict diet may be prescribed without anxiety. Begin by eliminating sugar and all the grosser forms of carbohydrate; then the farinaceous food; then bread, and, finally, milk, each article being replaced as it is withdrawn by a carbohydrate-free substitute. The return of assimilative power may be tested by allowing a weighed quantity of bread; but, as a rule, the failure of assimilative power is progressive. If coma sets in, the best article of diet is skimmed milk, given freely, either plain or mixed with Vichy water, to which bicarbonate of soda may be added. Alcoholic stimulants should be used freely, as alcohol lessens the destruction of proteids, which are the source of the acid poisons that produce the coma. In elderly persons absolute strictness of diet is less necessary. If no complications are present, it is sufficient, usually, to stop the consumption of sugar altogether and to restrict that of starchy foods. Many such patients, especially the obese, are improved greatly by an all-around reduction in the quantity of food consumed. Alcohol should be used with caution, especially in the form of beer. If complications develop, more rigid dieting is necessary.

19. **Leucocyte Count in Appendicitis.**—French discusses the value of leucocyte counts in appendicitis as an indication for operation, and concludes as follows:

The value of leucocytosis in relegating a given case of appendicitis to its proper group, and in deciding whether an operation should be performed, is apt to be overrated. Its value is even less than that deduced by other observers from the figures they have found. Many cases with 20,000 leucocytes have resolved spontaneously; many with 15,000 or less have had pus present. At the same time leucocyte counts are valuable in certain cases. In no case where the leucocytes have reached 25,000 has pus been absent. A rising count is of more importance than the absolute number. At best, leucocytosis is but one clinical sign among many. By itself it may mislead, but taken in conjunction with the pulse rate, the temperature and the general condition of the patient, it is an additional sign which may be of the greatest value in diagnosis.

Journal of Tropical Medicine, London.

June 15.

25 *Filariasis and Yaws in Fiji. R. de Boissiere.
26 Analysis of 2,739 Bantu Out-patients. N. MacVicar.
27 Notes on 1,784 Cases of Malaria. L. M. Hope.
27½ Trypanosomiasis in Man. G. E. Rusta.

25. **Filariasis and Yaws.**—De Boissiere says that the former is extremely prevalent in Fiji, and that the individual adult who has not been attacked in some way by this disease is the exception. The most common manifestation is the condition of varicose groin glands, with occasional attacks of filarial fever, which is frequently mistaken by the laity for malaria. The treatment consists of absolute rest in bed, milk diet, hypodermic injection of antipyrin, 7 gr., and sodium salicylate, 10 gr., given twice in twenty-four hours, the injection being made in the lower part of the thigh. An ointment containing guaiacol and menthol is rubbed in over the affected groin, and sometimes a lotion containing menthol and spirits of wine was applied freely to the inflamed areas. This treatment, as a rule, is a most satisfactory one. The tertiary manifestations of yaws are ulcers, known locally as "vidi koso," which may attack any portion of the body in any number. They are almost always very foul and fetid, and, unless treated, may last many years; pains in the bones and joints, called "sasala"; ulceration of the throat, known locally as "kanailoma"; lupoid ulcerations of the face and nose; gummata in the subcutaneous tissues or in the muscles; enlargement of the tibia; synovitis; dactolitis, and "soki," the local name for a small granuloma often affecting the soles of the feet and occasionally the palms of the hands. Potassium iodid, in doses of gr. 10 to gr. 20, three times daily, produces most brilliant results. Mercury is less useful, although in some cases the addition of 15 to 30 minims of liquor hydrargyri perchloridi to each dose of the iodid has appeared to be of great benefit. For the associated anemia, the syrup of the iodid of iron is better than the iodid of potassium. Local treatment often hastens a favorable issue. The ulcers are scraped, then cauterized with zinc chlorid (gr. 40 to dram 1 of water), and dusted with iodoform. A menthol-iodin-glycerin paint is useful for the ulcerations in the throat, and for the lupoid-like ulcers of the face and nose salicylic and mercurial ointments are useful. For the immediate relief of localized pain, the repeated application of small fly-blisters appears to be of service. The relationship of yaws to syphilis is a most intimate one. Both appear in three successive stages, and there is a remarkable similarity of the tertiary manifestations. The effects of treatment, especially in the tertiary stage, where the similarity between the two is greatest, are very much the same. Fijian yaws appear to confer an immunity against syphilis. On the other hand, there are differences between the two diseases, such as the mode of infection, the character of the secondary eruptions, the rare occurrence of tertiary frambesial affections of the nervous system, the affection of the permanent teeth, etc. Some of these differences may be accounted for by saying that at one time syphilis and Fijian yaws must have been intimately related, and that such intimacy was so great that these two diseases must have developed from a "parent form" common to both. During the course of their evolution certain specific differences appear to have developed, and so account for the fact that Fijian yaws is, at least, a close "first cousin" to syphilis to-day.

Bulletin de l'Académie de Médecine, Paris.

28 (LXVIII, No. 22.) *Etude statistique sur la mortalité cancereuse. Foucault.
29 Sur l'hygiène de l'alimentation des enfants du premier âge. Porak.

28. Prevalence of Cancer in a Forest Region.—Visitors to France will remember the forests near Paris, in the center of which lies the town of Fontainebleau with 14,000 inhabitants. Foucault has been making a statistical study of the cases of cancer that have occurred there during the last forty years, to determine whether the environing forests have had any influence in its occurrence. Cancer has been the cause of 7 per cent. of the total deaths, that is, 759 out of 11,048. In examining the so-called cancer houses he noted that they were always badly ventilated, with little, if any, exposure to the sun, in the lower and damper parts of the town, the dampness maintained by the building materials and defective drainage of sewage and rain water.

Presse Médicale, Paris.

Last indexed page 83.

30 (I, No. 38.) *Combined Method of Treating Strictures and Chronic Inflammations of Urethra. P. Philippe.—Nouvelle méthode combinée pour la cure des rétrécissements et des inflammations chroniques de l'urètre.
31 Technique et indications de l'électrolyse circulaire des rétrécissements de l'urètre (strictures of urethra). H. Minet and J. Averseng.
32 *Traitement de l'incontinence d'urine (variété infantile) par la faradisation du sphincter urétral. Genouville and Compain.
33 (No. 38.) *To Disguise the Taste of Oils. Boissel. Abstract.
34 False Floating Kidney. M. de Langenhagen.—Le faux rein flottant.
35 (No. 40.) *Des mesures exactes en radiologie. Mensurateur de Gaiffe (Gaiffe's radiometer). A. Zimmern.
36 Origines et tendances de la chirurgie contemporaine. P. Reclus.
37 (No. 41.) *Emploi du peroxide de zinc en chirurgie. Chaput. Abstract.
38 La teinture d'iode dans le traitement de la tuberculose pulmonaire. Deléarde. Abstract.
39 Les sarcomes du vagin dans l'enfance (in children). A. Le Dentu.
40 (No. 42.) Les troubles de la sensibilité. Les prurits. F. Trémolières.
41 Report of French Obstetrical Congress. (First part in No. 39.)
42 (No. 43.) L'insuffisance respiratoire. Traitement par la gymnastique et la rééducation respiratoires. G. Rosenthal.
43 De la radio-activité des eaux de Plombières (of Plombières waters). E. Hanaldo.
44 (No. 44.) *Le massage du coeur (of heart). M. D'Halluin.
45 *La ligature élastique du poignet dans la sphygmomanométrie radiale (ligature of wrist). R. Bareux.
46 (No. 45.) *To Remove Picric Acid Stains. Abstract.
47 La question des séborrhéides. R. Habourand.
48 Physiologie du courant électrique. Ses propriétés. L'Intensité. A. Zimmern.
49 (No. 46.) *La Spondylite syphilitique ou mal de Pott syphilitique. Froelich (Nancy).
50 Action diastasique et énergie primaire de la matière vivante (of living matter). A. Martinet.

30. Combined Method of Treating the Urethra.—Philippe combines slow and gradual negative electrolysis of the urethra with external application of the continuous or alternating current, and lavage of the urethra with carbonic acid gas, heated to 45 degrees C. and passed through cotton impregnated with essence of clove and cinnamon. He describes the reasons for the peculiar efficacy of this combination and its results in practice. Carbonic acid is remarkable for its power of dialysis. It passes through membranes, etc., ten times more rapidly than air, and in Gautier's hands has been more successful than any other measure as an adjuvant for the cure of varicose ulcers, torpid, rebellious wounds and suppurations of the middle ear. The gas enters the narrow cylinder, which is inserted in the urethra, and passes along over an electric lamp of sixteen candle-power, and thence through cotton impregnated with the disinfecting essences, thus emerging heated to 45 degrees C. and charged with the essences which it carries into the remotest crevices.

32. Faradic Treatment of Urinary Incontinence.—This method of treatment is particularly effectual in children and especially in those who have had incontinence from the earliest infancy. Of 40 subjects, 55 per cent. were cured and 63 per cent. of the children between 6 and 12 years old. The sittings numbered from 5 to 8 in the "congenital" cases, while the others required 6 to 16, with the exception of 5, who had 20 to 29 sittings. Improvement during the first week—even if slight—is a favorable sign that a cure will be attained finally. The electricity may be applied directly to the sphincter or to the region. All but 20 per cent. of the subjects were improved or cured, and in 16 a complete cure was realized in a maximum of 16 sittings.

33. To Disguise the Taste of Oils.—In an effervescing fluid medium oil becomes coated with bubbles which isolate it completely in a capsule, as it were, so that the oil does not come in contact with the tissues while it is being swallowed. It can thus be given in beer without its being tasted, but better still is a powder which Boissel has compounded. It causes violent effervescence when mixed with water, while it is simple, harmless and inexpensive. It is merely a combination of gum arabic, licorice, lactose and althea. The effervescence lasts for some time.

35. The Gaiffe Measure for Radiology.—An isolated milliampere meter is introduced into the circuit in such a way that it measures the quantity of *x*-rays emitted. By a further device the resistance of the tube for a given voltage can be determined and maintained at this point. No interrupter is needed.

37. Peroxid of Zinc in Surgery.—Peroxid of hydrogen is not durable and after the oxygen has been liberated nothing remains but water, and water is destructive to the cells. Chaput thinks that peroxid of zinc combines all the advantages of peroxid of hydrogen with none of its drawbacks. It has the same properties as zinc oxid, but with an additional molecule of oxygen, which it yields readily, especially in contact with the tissues. He has applied it to recent and old wounds, burns and torpid lesions. Gauze medicated with it aids in the healing, at the same time suppressing odor, as he found in 10 cases in which it was used as a dressing after colpotomy. He has found it always an energetic antiseptic, neither irritating nor toxic, keeping well and easily sterilized.

44. Massage of Heart.—D'Halluin reviews the history of the attempts to revive the arrested heart by massage, and relates personal experiments in this line, both with massage alone and with intravenous injection of adrenalin or intra-arterial injection of Locke's artificial serum. He was able to resuscitate with the adrenalin a dog that had been asphyxiated for thirteen minutes, but the amount injected—1/10 mg. per kilo—was probably too large, as the animal died two hours later. Intra-arterial injections cause such distension of the right heart that it interferes with resumption of the heart's pulsation. This suggests the possibility that the heart might be catheterized by way of the jugular, and the oxygenated venous blood reinjected into an artery. This would realize a kind of auto-infusion. In experimental research, massage of the heart has established its efficacy, but the results on man have been practically *nil*, with the exception of Haag's and Starling's experiences. The principal cause of the failure seems to be the production of a fibrillary trembling under the influence of the massage. Perhaps this may be obviated by Batelli's technic, introducing one electrode into the rectum with the other, consisting of two small discs, applied over each ventricle. Artificial respiration is started and the heart is massaged at the same time. As the oxygenated blood enters the coronaries the fibrillary tremor is observed, but it can be arrested by turning on the current (240 volts) for a second or two. It can also be arrested by an intravenous injection into the jugular of 1 gm. of potassium chlorate. By combining the massage with artificial respiration, the myocardium is relieved of its intoxication, and rhythmic pulsation recommences after an interval of ten to forty-five minutes, and sometimes longer. The massage of the heart induces an actual circulation, as it reanimates and maintains the bulbar activity. But the blood must still be fluid and the nerve centers relatively intact for it to be effectual. It should always be combined with artificial respiration.

45. Ligature of Wrist as Aid to Sphygmomanometer.—An elastic band slipped over the wrist enables the instrument to be used without an assistant.

46. To Remove Picric Acid Stains.—Apply a pinch of lithium carbonate to the spot on the skin or linen, and wet it. The spot will vanish at once if fresh, and in two minutes if the stain is older.

49. Syphilitic Spondylitis.—In this affection the spine is exceptionally straight instead of the normal lordosis. The vertebral body becomes larger in places and perforated by the soft gumma at others, while the process affects the various parts, especially the articular apophyses. A small tumor may be palpated instead of the hump of the tuberculous disease. Stigmata of syphilis, congenital or acquired, confirm the diagnosis. Persevering specific treatment is indicated—a cure was obtained in two years in one of the 2 cases reported. It is important to maintain the spine and head in a good attitude by an orthopedic apparatus.

Semaine Médicale, Paris.

51 (XXIV, No. 23.) Inadmissibility of the Mosquito Theory as the Sole Base for Etiology and Prophylaxis of Malaria and Yellow Fever. L. Cheinisse (Paris).—La théorie des moustiques peut-elle être admise comme base unique de l'étiologie et de la prophylaxie du paludisme et de la fièvre jaune?

52 Treatment of Nasal Hydrorrhea with Superheated Air. J. Grélety-Bouviel. Abstract.

53 Importance of Hair-growing Flaps for Regions Normally Covered with Hair. H. Morestin. Abstract.

Berliner klinische Wochenschrift.

54 (XLI, No. 22.) *New Hemostatic Derived from Spleen. T. Landau.—Ein neues, durch Autolyse der Milz gewonnenes Blutstillungsmittel (Stagnin).

55 *Surgery of Buccal Cavity. Brandt (Berlin).—Zur Chirurgie der Mundhöhle.

56 Fatal Hematemesis from Miliary Aneurism of Artery in Stomach Mucosa. H. Hirschfeld.—Fall von tödtl. Blutung in Folge miliaren Aneurysmas einer Magenschleimhautarterie.

57 Fall von Sinus pericranii. M. Litthauer.

58 Klinische Erfahrungen mit "Biosen," einer Eiweiss-Eisen-Lecithin Verbindung (compound of lecithin, iron and albumin). M. Heim.

59 (No. 23.) Surgery Fifty Years Ago and To-day. F. König.—Die Chirurgie vor 50 Jahren und die heutige Chirurgie.

60 *Ueber Phlebitis gonorrhoica. J. Heller.

61 *Aims, Progress in and Importance of Esophagoscopy. G. Glücksmann (Berlin).—Ziele, etc., der Oesophagoskopie.

62 Process of Fatty Degeneration. G. Rosenfeld.—Der Process der Verfettung.

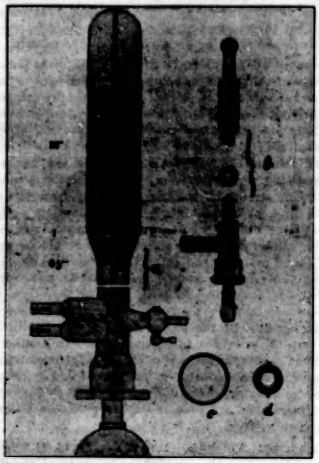
54. Hemostatic and Tonic Derived from Spleen Substance.—Landau found the spleen always exempt when the other parenchymatous organs were invaded by cancer metastases. This suggested the possibility that the spleen substance might have some value for the treatment of cancer. His experiments in this line have so far been completely negative, but he learned from them that the spleen substance contains so much iron with its albumin that in concentration and action it far surpasses all known artificially compounded preparations of iron. He consequently has been using it in the treatment of anemia, after establishing its entire harmlessness, and proposes to publish his results soon. In the meantime he announces that this research has led to the discovery that the spleen substance has a most remarkable hemostatic action. He, therefore, hastens to proclaim that the spleens of animals, after antiseptic autolysis, form an effective hemostatic. It does not act like adrenalin, but seems to influence the coagulating property of the blood and controls bleeding from the capillaries. No action was observed on the arteries nor when applied locally. Its chief scope will probably be in hemorrhagic gynecologic affections, in hemoptysis, gastric ulcer, and hemorrhage from any of the internal organs, but there is a prospect that it may prove useful also as a prophylactic before surgical intervention. It is the first organ product for use in therapeutics made according to Salkowski's technic of antiseptic autolysis. The fresh spleens of horses were the only ones used. The scraped pulp was mixed with double its volume of .91 per cent. salt solution, first rendered alkaline, and chloroform to supersaturation was added. The ingredients were thus 100 gm. pulp, 200 c.c. of .91 per cent. salt solution, 1 c.c. soda solution and the chloroform. It was set aside for twenty-four to forty-eight hours at a temperature of 30 to 37 degrees C. (86 to 99 degrees F.). It was then filtered and used or the filtrate was evaporated to one-fourth its volume or to a powder, which was then dissolved. The most effective preparation proved to be the one in which the original filtrate was evaporated to one fourth, then precipitated with alcohol and filtered. The residue was dried with alcohol to a powder which dissolved in water, forming a limpid, odorless and bright yellow fluid. The name of stagnin has been applied to the latter. It was injected into the muscles or subcutaneously in 89 gynecologic cases of hemorrhage, and almost invariably arrested the hemorrhage or at least checked it considerably. Later experiences indicate that the same effect, although not quite so pronounced, may be obtained from administration by the mouth.

55. Surgery of the Buccal Cavity.—Brandt gives a number of illustrations to show the technic of his methods of uranoplasty, staphylorrhaphy, etc., combined with the use of prothesis. One of his most ingenious plates consists of an artificial nose with a long peg projecting inward, used in a case of syphilitic destruction of the nose and palate. The plate holding the teeth and roof of the palate for the upper jaw has a similar long peg rising vertically from the back of the prothesis. It terminates in a ring at the top. The peg from the nose fits into this ring, at a right angle, each part thus holding and supporting the other. Photographs of a patient thus treated show that the functional and cosmetic result is very fine. Several other patients had coincident syphilitic and lupus lesions, requiring more extensive prothesis on these principles, the apparatus consisting of nose, part of the cheek and ear. The latter was held in place by a wig arrangement, but the nose was fastened by the peg perforating the palate and projecting into the apertura pyriformis nasi. In another patient the artificial eye and the jaw plate were fastened together by a rod passing from the orbit to the plate below. His prothesis for compensating unoperated cases of cleft palate consists of a plate, tourniquet and inflated rubber bulb, the latter closing the gap completely.

60. Gonorrheal Phlebitis.—Heller has found 24 cases in the literature resembling the one personally observed and described. It is the first one published in Germany. The veins in the legs are most frequently involved, the saphena being affected in 16 out of the total number and the femoral in 6. In 6 cases several vein systems were involved.

61. Improved Technic of Esophagoscopy.—Glücksmann has long been experimenting to perfect the technic of esophagoscopy, and the 8 illustrations he gives of the findings with his new instrument sustain all his assertions in regard to its remarkable efficiency. The esophagoscope should now come into current use, like the cystoscope, at the slightest suspicion of malignant disease. The electric lamp is introduced to the site of the lesion and the lumen of the esophagus can then be widened to five times its ordinary diameter, thus allowing detailed examination. His esophagoscope consists of a short, narrow cylinder and optic tube. The cylinder is connected with an electric light service and a bulb containing water. After the cylinder has been introduced to the point to be examined, water is forced into the rubber bag which forms the proximal part of the cylinder. This ring-shaped bag is then distended until its outline becomes that of a flattened sphere, pushing back the walls of the esophagus. The distal third of the cylinder is formed of a metal sheath, the halves of which open back like the calyx of a flower. In each half there is a small electric light, backed by a reflector, the whole short enough to escape contact with the walls of the esophagus when stretched apart by the distended bag above. His efforts to perfect esophagoscopy seemed to him almost an idle waste of time, as surgical intervention on the esophagus was fraught with such difficulties that it was seldom feasible. But the invention of Sauerbruch's air chamber for intrathoracal operating has stamped his work as extremely important and timely. It is now possible to examine the walls of an organ as readily as the bladder with cystoscopy and to operate on it with comparative ease. In every case of sudden decline with vague dyspeptic symptoms, the possibility of cancer of the esophagus should be borne in mind, and it should be visually inspected without delay. He adds, in conclusion, that all attempts at gastroscopy to date have been more or less a failure by all the known technics. In the illustrations *a* represents the part tapering into the tube which emerges from the mouth. It is

about 45 cm. long, while the part of the cylinder carrying the inflatable bag is 4 cm. in length. Mucus, saliva and blood can be rinsed out easily and rapidly by the little contrivance shown at b, the rinsing readily substituting visual inspection.



The entire procedure is so simple and free from inconveniences that he has been able to take four pictures at a single sitting in a patient submitting to esophagoscopy for the first time.

Centralblatt f. d. Grenzgebiete der Med. u. Chir., Jena.
Last indexed XLII, page 68.

63 (VI, No. 21.) *Beitrag zur Diagnose der Lithiasis pancreatica. D. G. Zesas (Berne). Critical review of the literature.
64 (No. 22.) *Liver Abscess. F. Perutz.—Der Leberabscess. (Commenced in No. 17.) Critical review.
65 (No. 23.) *Congenital Dilatation of Colon. O. Silberberg.—Ueber angeborene Colonerweiterung. Critical review.
66 *Tabetic Bone and Joint Affections. S. Adler.—Ueber tabische Knochen- und Gelenkerkrankungen. (Commenced in No. 22.) Critical review.
67 *Die operative Behandlung der Nephritis. W. Klink. (Commenced in No. 17.) Critical review.
68 (VII, Nos. 1-2.) *Chronic Rheumatic Affections in Children. L. Laufer.—Die chronisch rheumatischen Erkrankungen im Kindesalter. Critical review.
69 (No. 4.) Die Metamerie der Haut (of skin). O. Grosser. (Commenced in No. 1.) Critical review.
70 (No. 5.) *Adiposis dolorosa (maladie de Dercum). A. Weiss. (Commenced in No. 1.) Critical review.
71 (No. 7.) *Indications and Results of Total Extirpation of Spleen and its Physiologic Action. E. Langeyen.—Indikationen und Resultate totaler Milsexstirpation nebst Betrachtungen über die physiologische Wirkung derselben. (Commenced in No. 1.) Critical review.
72 (No. 8.) Talma's Operation for Cirrhosis of Liver. Its Indications and Results. D. G. Zesas.—Die Talmasche Operation bei Lebercirrhose, ihre Indikationen und ihre Resultate. (Commenced in No. 6.)

63. Diagnosis of Stones in Pancreas.—In a case recently under Zesas' observation the diagnosis wavered between biliary and pancreatic lithiasis. The secondary manifestations of the latter are glycosuria and steatorrhea, with dyspeptic troubles. In only 7 published cases has the diagnosis been established during life, in 2 instances by Leichtenstern. Zesas reviews 33 publications on the subject, including several from America. Pancreas colic commences either with an intense pain between the shoulder blades, radiating to the left thorax, and becoming localized in the epigastrium, generally in the middle or toward the left, or else the colic commences with a sensation of constriction and oppression in the epigastrium and left costal arch, radiating thence toward the spine as excruciating pain. The liver region is comparatively exempt. The calculi formed in the pancreas consist of calcium phosphates and carbonates with some organic matter, forming a soft or chalky, whitish gray sand or stone. Fatty stools are not constant and are a tardy, secondary phenomenon when observed. Glycosuria is one of the most frequent and most constant symptoms, due to injury of the pancreas from the stones.

64. Liver Abscess.—Perutz has sifted the literature on this subject during the last ten years—234 articles in all—and finds that the consensus of opinion is in favor of exploratory puncture as a harmless means of differentiating. He ascribes the etiology of liver abscess in tropical and subtropical regions to amebic dysentery in the majority of cases. Leucocytosis is a valuable differentiating sign and likewise radioscopy. A suppurative process secondary to cholelithiasis has a good prognosis, but this is not the case with abscesses in the liver when consecutive to appendicitis; they are frequently complicated with suppurative thrombosis of the portal vein, and the prognosis is unfavorable in general.

65. Congenital Dilatation of the Colon.—Silberberg reviews 25 communications that have been published on this subject and admits that our knowledge in regard to it is still vague. Treatment is mainly symptomatic—introduction of a tube to allow the escape of gases, high injections and purgatives, massage of abdominal walls, and electricity applied to abdominal muscles. An artificial anus would not insure a permanent cure, and few infants would survive so severe an operation as resection of the dilated bowel.

66. Tabetic Bone and Joint Affections.—Adler finds that the symptoms and course of tabetic bone and joint lesions are described in about the same terms in the 155 articles which he reviews. Surgical intervention is not advisable in most cases on account of the general involvement of the bones in the process, but should not be rejected for every case, although the after-treatment requires exceptional care to prevent decubitus and infection of the urinary passages, on account of the weakness of the bladder and the analgesia. Resection is indicated only in cases allowing the prospect that the patient can afterward get about. Supporting apparatus must be used even after resection, to prevent recurrences, as complete consolidation after resection is obtained only in a few instances.

67. Operative Treatment of Nephritis.—Klink classifies the cases reported in the literature, going over 155 communications. Fourteen different methods of operative intervention were followed in the 66 cases of supposed nephritis thus

treated. Of this total 32 were cured, 14 improved, 7 persisted unmodified and 13 died after operation. Out of the 8 cases of acute parenchymatous nephritis 6 were cured, and 5 were cured or improved in the 7 cases of chronic parenchymatous nephritis. Of 24 cases of chronic diffuse nephritis 5 were cured, 10 improved and 7 died. Of 27 cases of chronic interstitial nephritis 32 were cured, 14 improved and 13 died. The proportion of recoveries for these classes is thus, 75 per cent., 56 per cent., 21 per cent. and 63 per cent. The results, therefore, were best in acute parenchymatous nephritis, but this affection frequently subsides spontaneously. On the other hand, the proportion of 63 per cent. recoveries in the chronic interstitial variety may be regarded as a brilliant success, as the prognosis for these cases is otherwise bad. The cures in the 18 cases operated on for hemorrhage form a total of 66 per cent., while in the 35 cases in which the intervention was undertaken on account of symptoms of nephritis, 54 per cent. were cured and 8 patients were much improved.

68. **Chronic Rheumatic Affections in Children.**—Laufer reviews the 89 works on this subject that have appeared since Pribram and Johanessen's summaries. The number of remedies and medical measures is large, but the physician frequently finds that none of them prove effectual. Possibly the future will realize the hope expressed by Menzer that injections of serum may be able to modify the chronic, incurable cases in such a way as to render them amenable to treatment by transforming them into an acute, curable condition.

70. **Adiposis Dolorosa.**—Weiss describes the clinical picture of Dercum's adiposis dolorosa and comments that its course is extremely chronic and therapeutic influences uncertain. The pathologic findings, in connection with theoretical assumptions, suggest the participation of the thyroid gland in the etiology. His work is based on a bibliography of 45 articles.

71. **Indications and Results of Splenectomy.**—Laspeyres concludes from his critical review of 320 articles—1894 to 1903—on the physiologic action of the spleen and the history of surgical intervention, that the function of the organ and its significance for the normal organism are still shrouded in darkness. Two instances are on record of severe infectious disease in a splenectomized subject. One passed through typhoid and recovered. The other had a four weeks' pneumonia. Convalescence was slow and there was marked lymphocytosis without eosinophilia, persisting to a certain degree when examined a year later. Experimental research indicates that the spleen as a lymphocyte organ performs some important function in infectious diseases, but the authors take conflicting views in regard to it.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

73 (XXX, No. 23.) Ueber den Wert der Hemolysin-Bildung der Vibrionen für die praktische Cholera-Diagnose. Meinicke.
74 *Ueber den Mechanismus der Tuberkulin-Immunität. E. Loewenstein and E. Rappeport (Beisig).
75 Demineralisation und Tuberkulose. F. Steinitz and R. Weigert (Breslau). Conclusions negative.
76 *Molecular Concentration of Blood and Urine in Case of Bilateral Kidney Disease. F. Poly (Würzburg).—Bestimmungen der molek. Konsentration des Blutes und des Urins bei doppelseitigen Nierenerkrankungen.
77 Zur Kasuistik der Purpura cachectica. T. Voeckler.
78 Free Body in Both Knees with Habitual Outward Luxation of Patella. W. Rocker.—Fall von freien Gelenkkörpern in beiden Kniegelenken, etc., mit doppelseitiger habitueller Luxation der Patella nach aussen.
79 *Ueber eine neue Funktionsprüfung des Herzens (functional test of heart). M. Katzenstein (Berlin). (Commenced in No. 22.)
80 Aspirin und Karzinom (for symptomatic treatment). J. Ruhemann.
81 Ozena, heilbar durch Behring'sches Serum antidiphthericum. K. Tarnowski. 2 cases cured, 1 improved.
82 Einseitiger Nystagmus (unilateral). E. H. Oppenheimer.
83 Die Walderholungsstätte in Dessau (fresh air, day resorts for the tuberculous). W. Liermann.
84 Provision for Advanced Consumptives. Elkan.—Fürsorge für vorgeschrittene Tuberkulöse.

74. **Tuberculin Treatment and Immunity.**—This communication issues from the great Belsig sanatorium. The writers emphasize the fact that their experiences with the isopathic treatment of tuberculosis have been most favorable, and justify its adoption on a large scale. They followed the Gutmann and P. Ehrlich technic as modified by Goetsch, Moeller and Petruschky, allowing an interval of three or four days between the injections of the tuberculin. In case of a reaction they wait a week, but do not increase the dose. They commence with .1 mg. and terminate with 1,000 mg. of tuberculin. An evenly balanced mixture of toxin and antitoxin, injected into a normal subject, does not cause any appreciable reaction. On the contrary, when the evenly balanced mixture is injected into a subject rendered immune by isopathic procedures he responds with a production of antitoxin. The supersensibility of the tuberculous organism is the cause of the specificity of the reaction to tuberculin used as a diagnostic. The larger this diagnostic dose the easier the transition to immunity in continuing the tuberculin as a therapeutic measure. When the subject no longer reacts in any way to a dose which formerly caused a febrile reaction, then he is called immune, and the degree of immunity is expressed by the last dose tolerated without reaction. Of 180 cases thus treated 85 have been followed long enough to draw definite conclusions, after having reached an immunity represented by a minimal dose of 10 mg. Forty-eight were cases of closed tuberculosis and 35 of these have been cured, 9 essentially improved and 4 improved. Of 16 cases of mild, open tuberculosis 11 have been cured and 5 essentially improved. Of 21 cases of severe, open tuberculosis 6 have been cured, 9 essentially improved and 6 improved. These results and those observed in the balance of the cases treated corroborate the announcements in regard to the benefits to be derived from isopathic therapy in tuberculosis. See the article by Goetsch reviewed in THE JOURNAL of July 13, 1901, xxxvii, p. 150.

76. **Cryoscopy in Bilateral Nephritis.**—Poly found the molecular concentration of the blood normal in 3 cases of extremely severe uremia. In another case of bilateral nephritis he found the molecular concentration extremely high and thus persisting for twenty days, but with no appreciable symptoms of uremia, as also in another case. The freezing point of bladder urine multiplied by the amount of urine in the twenty-four hours, gives what Strauss calls the "Valenz," and this is diagnostically important, especially when compared for several days in succession. The "Valenz" rises as the freezing point of the blood returns to normal.

79. **New Functional Test of the Heart.**—The first part of Katzenstein's article was summarized in these columns last week, page 85. His test is based on observation of the manner in which the heart responds to the extra task imposed by transient compression of two symmetric arteries. If the heart is capable, it merely sends out a stronger wave, without increasing its beat. The blood pressure rises 5 to 15 mm. mercury while the beat is unaltered or slightly retarded. In case of a competent, hypertrophic heart the blood pressure becomes plus 15 to 40, the pulse the same or less. In case of slight insufficiency, the pressure does not rise, but the pulse remains the same or is accelerated. In severe insufficiency the pressure drops while the pulse is accelerated. In short, any increase in the pulse under compression of the iliac or femoral arteries for two and a half to five minutes indicates that the heart is below par. The subject should be reclining and in a tranquil mood.

Münchener medicinische Wochenschrift.

85 (LI, No. 19.) *Licht-Therapie nach Professor v. Zappeiner (phototherapy). Jesionek.
86 The Phenomena of Precipitation. M. Neisser and U. Friedemann.—Studien über Ausflockungserscheinungen. Beziehungen zur Bakterien-Agglutination.
87 *Ueber Hemoglobin-Untersuchungen in Fällen von chronischen Herz-Krankheiten (heart diseases). Schott (Nauheim).
88 Komplizierte Fremd-Körper-Perforation eines Traktions-Divertikels des Oesophagus. H. Marx.
89 Pneumonie, Meningismus und Aphasie. R. Doerenberger.
90 *Einfluss des alpinen Klimas auf Nephritis und "Zyklische" Albuminurie. P. Edel.
91 Das Gipsbett zur Behandlung der Skoliose und Kyphose (plaster bed). R. Lammers.
92 *Die moderne Therapie des Ophidismus in Brasilien. E. v. Bamberg (Porto Alegre).
93 Zur Kasuistik der chron. kontinuierlichen Magensaftfluss (gastrosuccorrhea). Reinhard.
94 Instrumenteller Beitrag zur chirurgischen Behandlung der Tonsillar-Abscesse. H. Eisgner.
95 Transportabler Sterilisations-Apparat für Verbandstoffe und Instrumente. Kronacher.
96 Ein neuer sangenartiger Nadelhalter mit bündiger Sperrvorrichtung (needle holder with firm lock). M. Lisso.

85. Tappeiner's Method of Phototherapy.—Painting the tissues to be exposed with a .1 to .01 per cent. solution of eosin enhances the action of light on the tissues. Jesionek uses diffuse sunlight or concentrated sunlight and also concentrated electric light. His experience has shown that a stronger solution actually prevents the therapeutic action of the light. Tappeiner's communications on this subject were reviewed in these columns, page 68 of the last volume.

87. Hemoglobin in Chronic Heart Disease.—Schott analyzes a number of cases in which the hemoglobin was rapidly restored to normal during a Nauheim course of baths and exercises, although in all there was some heart affection, muscular weakness, exophthalmic goiter or chronic myocarditis, with or without a kidney affection. He found that the proportion of hemoglobin returned more rapidly to normal in young and middle-aged subjects than in the elderly—other conditions being equal. Even when the latter feel subjectively much better under the influence of the treatment, yet the hemoglobin percentage still remains low. He has observed that excessive physical exertion, violent emotions or a febrile affection are able to reduce the proportion of hemoglobin very rapidly, in some cases even instantaneously. The rise in hemoglobin was very marked in some of the cases he describes. In a lad of 14 with aortic incompetency after polyarthritis, the hemoglobin rose from 55 to 78 per cent., the blood pressure from 105 to 118 mm. in thirty-five days, during which time twenty-four baths had been taken. In a man of 44 with debilitas cordis and dilatation of both ventricles, the hemoglobin rose from 75 to 85, but then dropped back to 80 in consequence of a febrile bronchitis.

90. Mountain Climate in Relation to Nephritis and "Cyclic" Albuminuria.—Edel relates that four nephritic subjects had long been under his observation and he went with them into Switzerland to a point about 4,080 feet above the sea. He found that the blood pressure rapidly rose even at rest, and went still higher during mountain climbing, and that this tendency persisted after a return to the plains. These observations were contrary to the favorable effect of Alpine-trips on "cyclic" albuminuria. His experience has convinced him that a mountain climate is contraindicated in case of nephritis and of high pressure from any cause, but that the same cause which renders it injurious in these cases—the increased vascular tension—affects "cyclic" albuminuria favorably. It has also a favorable effect on subjects who present the appearance of "cyclic albuminuria" but without the albumin in the urine. The indications for the mountain climate are subnormal tonicity and too wide arteries, such as we find in exophthalmic goiter, for instance.

92. Treatment of Snake Bite.—Bassewitz comments on the efficacy of Vital Brazil's method of serum treatment of snake bites. It is made on the same principles as Calmette's antivenin, but with the snake venom found in Brazil, Calmette's serum not having any action on these snakes. It is impossible, however, to obtain it in remote districts without such a delay that the time for its action has usually long passed. The pharmacists of Brazil do not care to keep it on hand, as it is expensive and spoils readily. Consequently, notwithstanding that the serum treatment of snake bite has fully established its efficacy, yet the occasions in which it can be used are few and far between. For this reason Bassewitz recommends a mode of organ treatment which has proved invariably successful in his extensive experimental research. It is based on Fraser's discovery that the dried blood serum of a certain poisonous snake of India is identical with its antivenin, a substance obtained from the blood serum of immunized animals. Bassewitz' technic is to cut out the liver of the snake—which is usually killed after it has bitten, or can be killed. The liver is triturated with 50 to 100 c.c. of a 7 per thousand salt solution, and after the whole has been mixed it is filtered through two layers of filtering paper or through a corresponding layer of cotton, and is then injected into the flank or scapular region. Careful asepsis is necessary, as also all the usual precautions such as ligature of the limb above the bitten spot, scarification of the wound and sucking out of the poison, possibly using a cupping glass or any small glass. As a still further precautionary measure he recommends to drink the contents of the snake's gall bladder. It has been established that a large proportion of the snake poison is eliminated through the stomach walls, and ingestion of the bile per os thus brings its antitoxic properties directly into play.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

URIC ACID, an Epitome of the Subject. By Alexander Haig, M.A., M.D. Oxon, F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Cloth. Pp. 158. Price, $1.60 net. Philadelphia: P. Blakiston's Son & Co. 1904.

MEDICAL AND SURGICAL REPORT OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. Volume VI, January, 1904. Edited by Andrew J. McCosh, M.D., W. Gilman Thompson, M.D. Pasteboard. Pp. 331. New York: Trow Directory Printing and Bookbinding Co.

RADIUM, RADIOACTIVE SUBSTANCES AND ALUMINUM, with Experimental Research of the Same. By Myron Metzenbaum, B.S., M.D., Cleveland, Ohio. Paper. Pp. 24. Second Edition. Cleveland, Ohio: Babbitt & Crummell Co. 1904.

SEVENTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF OHIO for the Year Ending Dec. 31, 1903. Paper. Pp. 508. Springfield, Ohio: Springfield Printing Co. 1904.

ANNUAL REPORT OF THE BOARD OF HEALTH OF CITY OF WINONA, MINN. Year Ending March 31, 1904. Paper. Pp. 11. Winona, Minn.: Joseph Leicht Press. 1904.

MODERN MEDICINAL PRODUCTS. Paper. Pp. 30. For Gratuitous Distribution. New York: C. Bischoff & Co.

NEW PATENTS.

Patents issued from May 17 to June 7 of interest to physicians:

760177. Atomizer. Isidor Brach, Philadelphia.
760102. Artificial limb. Wm. T. Carnes, Harmonsburg, Pa.
760061. Disinfecting apparatus. Gabriel Dubuis, Pimlico, London, England.
759882. Invalid bed. John Hall and H. A. Paddleford, North Montpelier, N. H.
759885. Inhaler. John Q. A. Haughey, Battle Creek, Mich.
760395. Surgical instrument. Thomas A. Houghton, Rochester, N. Y.
759891. Druggists' mass divider. John W. Jackson, Weston, Mo.
760217. Truss. John E. Lee, Conshohocken, Pa.
760229. Bed pan. Christian W. Meinecke, Jersey City, and D. Hogan, Hoboken, N. J.
760248. Subcutaneous syringe. Louis Reich, Remda, Germany.
760018. Making medicated soaps. Rudolf Reim, Charlottenburg, and H. Schmatolla, Berlin, Germany.
760253. Truss pad. Oliver C. Ross, Spokane, Wash.
760022. Abdominal supporter. Elise Schenkel Pforzheim, Germany.
760278. Pharmaceutic dispensing case. Elisha J. Thurman, Fenton, Mo.
761029. Apparatus for therapeutic purposes. Fred H. Brown, Los Angeles, Cal.
760421. Ophthalmometer. John F. Chambers, Chicago.
760615. Hernial truss. Frank M. Croiius, Minneapolis.
760458. Ophthalmic cabinet. Lewis C. Lovell, Richmond, Ind.
760755. Bed for invalids. Charles G. Radcliff, Carthage, Mo.
760823. Uterine supporter. Miriam J. Torrence, Indianapolis.
761109. Apparatus for producing an alternating magnetic field for therapeutic purposes. Ernst Buhts, Berlin, Germany.
761369. Apparatus for diagnosis. Barbara J. Francis, New York.
761217. Rectal syringe. Emerson A. Gilbert, Jamestown, N. Y.
761285. Catheter. Irwin F. Kepler, Akron, Ohio.
761504. Surgical apparatus. John Kleinbach, Spokane, Wash.
761518. Manufacture of surgical bandages. John E. Lee, Conshohocken, Pa.
761122. Disinfecting apparatus. Robert J. Wilson, New York.
762121. Eye shade. Wm. S. Bevan, New York.
761821. Rimless trivalve vaginal speculum. Wm. H. Clark and T. S. Harper, Indianapolis.
761763. Apparatus for drying powders. Henri Croizier, Paris, France.
762081. Artificial leg. Walter Engels, Hamburg, Germany.
762082. Extracting juice from dried licorice root. Ferdinand Evers, Duesseldorf, Germany.
762089. Antiseptic attachment for telephone mouthpiece. James Freel, Ladysmith, Canada.
762256. Mixture for treating tuberculosis. Robert Schneider, Berlin, Germany.
762298. Artificial eye. Vincens Fukala, Vienna, Austria-Hungary.
762832. Fastening device for artificial limbs. James E. Hanger, Washington, D. C.
762643. Appliance for treating disease. Eleanor A. Learman, Cleveland, Ohio.
762743. Cervical director. Charles W. McDade, Ceylon, Minn.
762852. Physical development apparatus. Elliot L. Mingos, Rochester, N. Y.
762555. Combined brace and suspensory. Alexander C. Rankin, Chicago.
762366. Urethrotome. Wm. E. Washburn, Kewanee, Ill.
762603. Hypodermic syringe. Charles Witkowski, Boston.